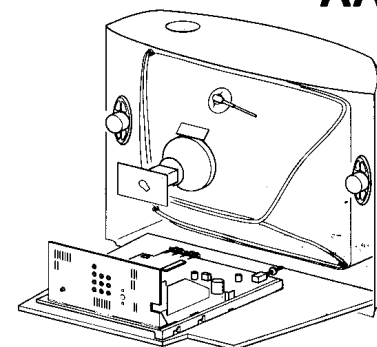


Service  
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Service



# Service Manual

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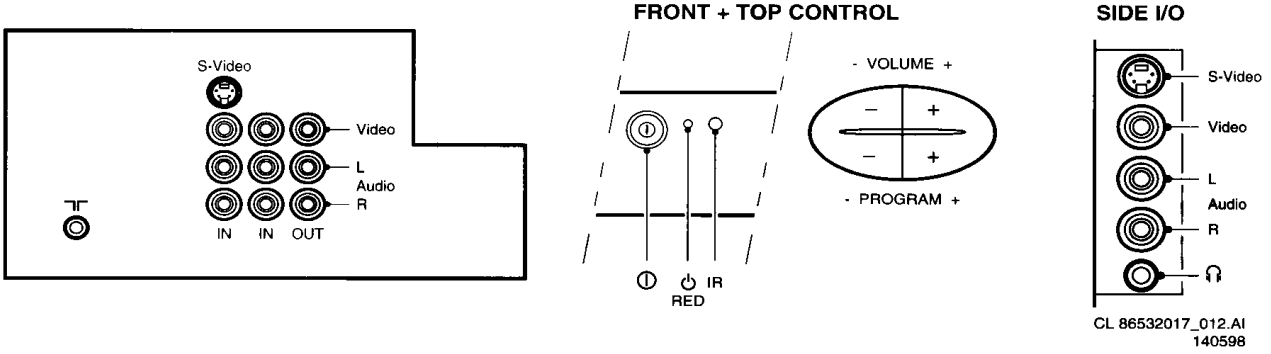
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# 2 Connection facilities and chassis overview

## 2.1 Specification of the terminal sockets



### 2.1.1 Inputs (AV1, AV2 and Side AV)

- Cinch CVBS (yellow) (1Vpp +/- 3dB 75Ω)
- Cinch Audio R (red) (0.2-2VRMS 10kΩ)
- Cinch Audio L (white) (0.2-2VRMS 10kΩ)



### 2.1.3 Headphone

- Jack 32-2000 Ω(10mW)



### 2.1.2 Outputs (MONITOR out)

- Cinch CVBS (yellow) (1Vpp +/- 3dB 75Ω)
- Cinch Audio R (red) (0.5VRMS < 1kΩ)
- Cinch Audio L (white) (0.5VRMS < 1kΩ)

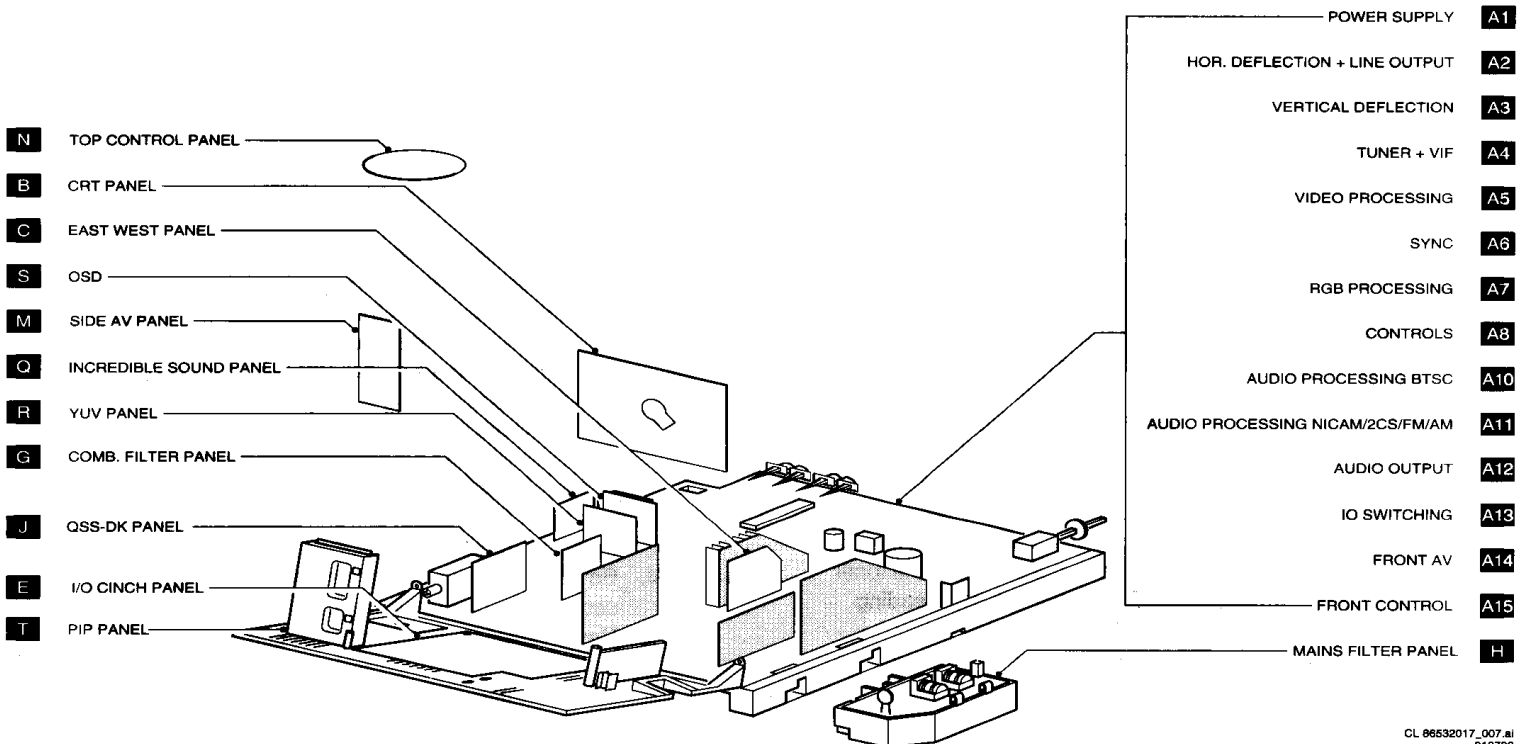


### 2.1.4 SVHS

- 
- 1. Ground
- 2. Ground
- 3. Y (1Vpp +/- 3dB 75Ω)
- 4. C (0.3Vpp +/- 3dB 75Ω)



## 2.2 PCB location drawing



### 3.1 Safety instructions for repairs



Figure 3-1

1. Safety regulations require that during a repair:
  - the set should be connected to the mains via an isolating transformer;
  - safety components, indicated by the symbol (see fig. 3.1), should be replaced by components identical to the original ones;
  - when replacing the CRT, safety goggles must be worn.

2. Safety regulations require that after a repair the set must be returned in its original condition. In particular attention should be paid to the following points.

- As a strict precaution, we advise you to resolder the solder joints through which the horizontal deflection current is flowing, in particular:
  - all pins of the line output transformer (LOT);
  - fly-back capacitor(s);
  - S-correction capacitor(s);
  - line output transistor;
  - pins of the connector with wires to the deflection coil;
  - other components through which the deflection current flows.

Note: This resoldering is advised to prevent bad connections due to metal fatigue in solder joints and is therefore only necessary for television sets older than 2 years. The wire trees and EHT cable should be routed correctly and fixed with the mounted cable clamps.

- The insulation of the mains lead should be checked for external damage.
- The mains lead strain relief should be checked for its function in order to avoid touching the CRT, hot components or heat sinks.
- The electrical DC resistance between the mains plug and the secondary side should be checked (only for sets which have a mains isolated power supply). This check can be done as follows:
  - unplug the mains cord and connect a wire between the two pins of the mains plug;
  - set the mains switch to the on position (keep the mains cord unplugged!);
  - measure the resistance value between the pins of the mains plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 MW and 12 MW;
  - switch off the TV and remove the wire between the two pins of the mains plug.
- The cabinet should be checked for defects to avoid touching of any inner parts by the customer.

### 3.2 Maintenance instruction

It is recommended to have a maintenance inspection carried out by a qualified service employee. The interval depends on the usage conditions:

- When the set is used under normal circumstances, for example in a living room, the recommended interval is 3 to 5 years.

- When the set is used in circumstances with higher dust, grease or moisture levels, for example in a kitchen, the recommended interval is 1 year.
- The maintenance inspection contains the following actions:
  - Execute the above mentioned 'general repair instruction'.
  - Clean the power supply and deflection circuitry on the chassis.
  - Clean the picture tube panel and the neck of the picture tube.

### 3.3 Warnings



#### 1. ESD

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential.

- Available ESD protection equipment:
  - anti-static table mat (large 1200x650x1.25mm) 4822 466 10953
  - anti-static table mat (small 600x650x1.25mm) 4822 466 10958
  - anti-static wristband 4822 395 10223
  - connection box (3 press stud connections, 1 M ohm) 4822 320 11307
  - extension cable (2 m, 2 M ohm; to connect wristband to connection box) 4822 320 11305
  - connecting cable (3 m, 2 M ohm; to connect table mat to connection box) 4822 320 11306
  - earth cable (1 M ohm; to connect any product to mat or connection box) 4822 320 11308
  - complete kit ESD3 (combining all 6 prior products - small table mat) 4822 310 10671
  - wristband tester 4822 344 13999

2. In order to prevent damage to ICs and transistors, all high-voltage flashovers must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 3.2 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is 0V (after approx. 30s).

3. Together with the deflection unit and any multipole unit, the flat square picture tubes used from an integrated unit. The deflection and the multipole units are set optimally at the factory. Adjustment of this unit during repair is therefore not recommended.

4. Be careful during measurements in the high-voltage section and on the picture tube.

5. Never replace modules or other components while the unit is switched on.

6. When making settings, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

7. Wear safety goggles during replacement of the picture tube

### 3.4 Notes

1. The direct voltages and oscillograms should be measured with regard to the tuner earth , or hot earth as this is called (see fig. 3.3)

2. The direct voltages and oscillograms shown in the diagrams are indicative and should be measured in the Service Default Mode (see chapter 8) with a colour bar signal and stereo sound (L:3 kHz, R:1 kHz unless stated otherwise) and picture carrier at 475.25 MHz.

3. Where necessary, the oscillograms and direct voltages are measured with and without aerial signal. Voltages in the power supply section are measured both for normal operation and in standby. These values are indicated by means of the appropriate symbols (see fig. 3.3).
4. The picture tube PWB has printed spark gaps. Each spark gap is connected between an electrode of the picture tube and the Aquadag coating.
5. The semiconductors indicated in the circuit diagram and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

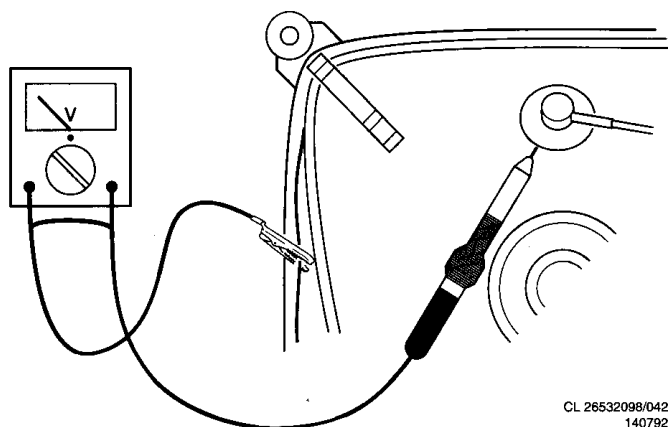


Figure 3-2

<p>⊥ tuner earth tuner aarde la masse du tuner Tuner-Erde massa del tuner tierra del sintonizador</p>	<p>⊥⚡ hot earth hete aarde la terre directe heißen Erde massa calda tierra caliente</p>
<p>⊥ with aerial signal met antenne signaal avec signal d'antenne mit Antennensignal con segnale d'antenna con la señal de antena</p>	<p>⊥ without aerial signal zonder antenne signaal sans signal d'antenne ohne Antennensignal senza segnale d'antenna sin la señal de antena</p>
<p>ⓘ normal condition normaal bedrijf fonctionnement normal normaler Betrieb funzionamento normale funcionamiento normal</p>	<p>ⓘ stand by stand by position de veille in Bereitschaft modo di attesa posición de espera</p>

Figure 3-3

## 4 Mechanical instructions

In this chapter the mechanical provisions of the A8 chassis are described

### 4.1 Removing the rear cover

In order to remove the rear cover from the A8, all screws at the side, the bottom and the top of the rear cover have to be removed. The screws on the I/O panel should NOT be removed.

Caution: Remember to disconnect subwoofer cable when present

### 4.2 Service positions

#### 4.2.1 Separate mains filter (figure 4.1)

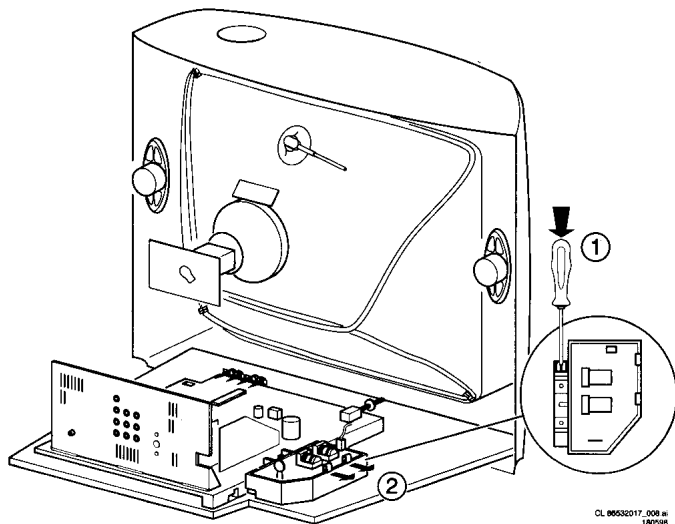


Figure 4-1

**CAUTION!** Unplug the mains cord before working on the separate mains filter; the separate mains filter carries permanent mains voltage (even when the mains knob is switched OFF).

To disconnect the separate mains filter bracket from the chassis tray:

- firmly depress the click (with a screwdriver) in the chassis tray (1)
- push the mains filter bracket in the direction of the CRT

To remove the separate mains filter panel from its bracket:

- push the 2 clips at the right hand side of the mains filter bracket outside (2)
- lift the panel from its bracket

#### 4.2.2 Mono carrier (figure 4.2)

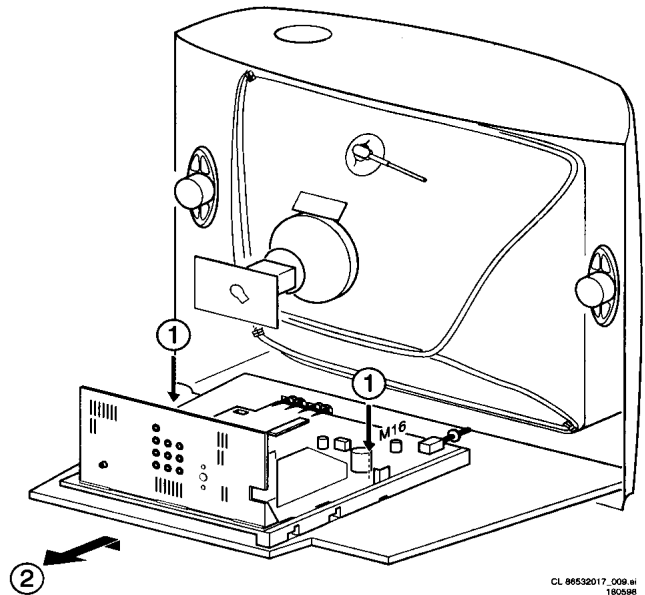


Figure 4-2

To remove the chassis tray from the cabinet:

- disconnect the degaussing coil (connector M16 on the mono carrier)
- pull the clips (1) backward and pull the chassis tray as indicated (2)

The chassis tray should be turned 90 degrees counter clock wise and flipped over to access the copper side of the mono carrier.

#### 4.2.3 Environment independent position (figure 4.3)

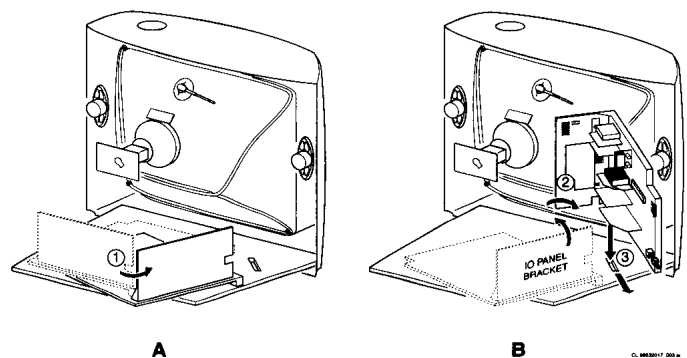
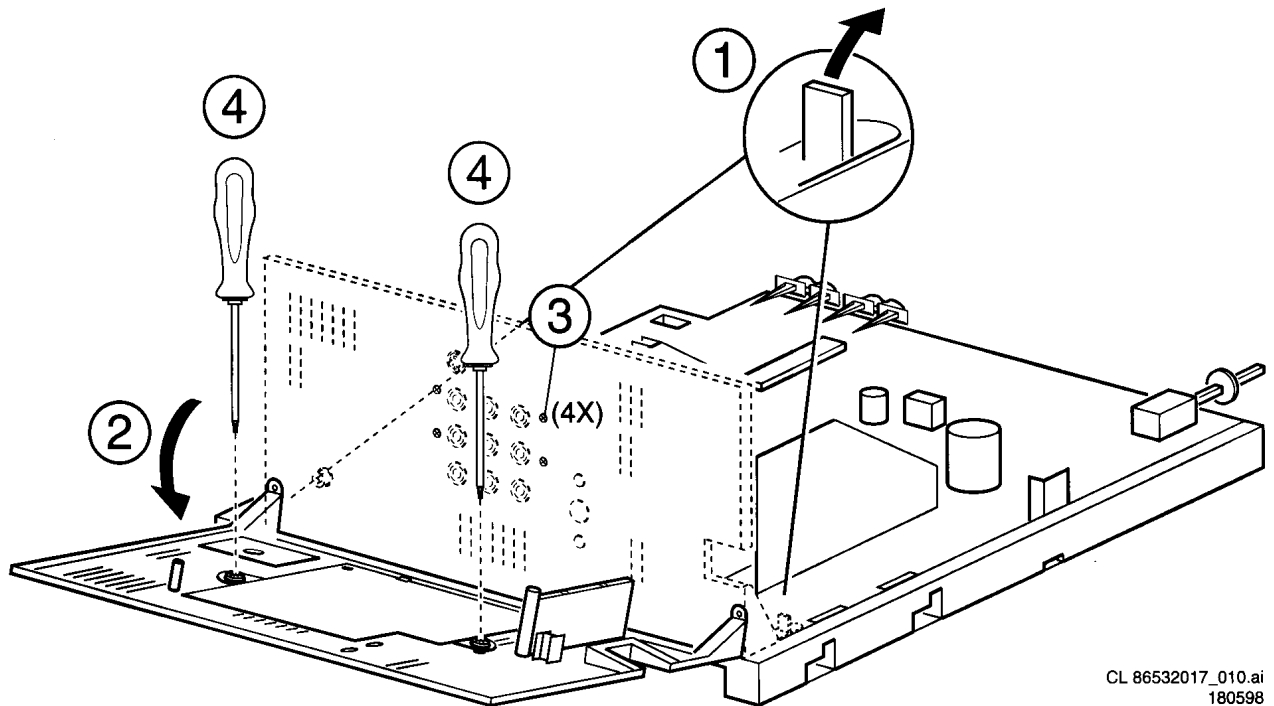


Figure 4-3

For home repair the chassis tray with mono carrier can be fixed in the cabinet.

- turn the chassis tray 90 degrees counter clock wise (1)
- flip the tray with the I/O panel towards the CRT (2)
- press (the hook of) the chassis tray firmly into the designated hole in the cabinet bottom (3) and pull the chassis tray backward (the speaker cables may have to be disconnected)

## 4.2.4 I/O panel (figure 4.4)



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180598

**Figure 4-4**

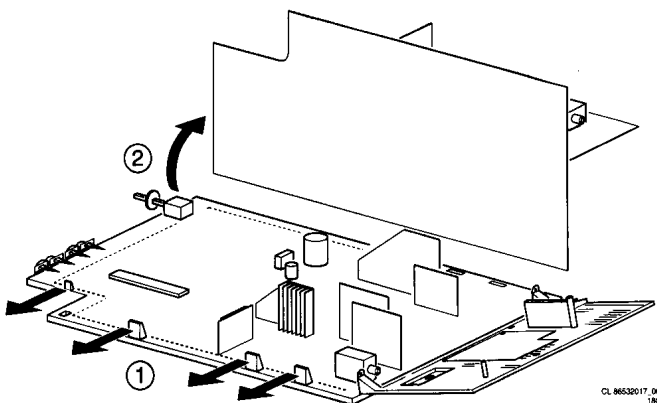
To access the copper side of the IO panel:

- push the clips (1) in the direction of the CRT (If the clips are broken, the I/O panel can also be screwed to chassis tray)
- slide the I/O panel bracket (2) to its horizontal position

To remove the I/O panel from its bracket:

- remove the 2 screws on the connector side of the panel (3)

## 4.2.5 Repairing the mono carrier (figure 4.5)



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**Figure 4-5**

For full access to the component and copper side of the mono carrier, it can be removed from the chassis tray.

- push the clicks of the chassis tray outwards (1)
- lift the mono carrier from the tray

## 4.2.6 Removing the sub woofer box

To remove the sub woofer box:

- remove the rear cover and disconnect the sub woofer cable
- place the rear cover on a flat surface with the sub woofer faced up
- remove the 2 screws at the top and the 2 screws at the bottom of the sub woofer box

## 4.2.7 PIP/DW panel

To access the copper side of the panel:

- remove the screw above the antenna input at the back of the IO panel bracket
- remove the 2 screws by which the PIP/DW panel is fixed to the IO panel bracket

In this chapter the following paragraphs are included:

- 5.1 Test points
- 5.2 Service Modes and Dealer Service Tool (DST)
- 5.3 Error code buffer and error codes
- 5.4 The "blinking LED" procedure
- 5.5 Trouble shooting tips
- 5.6 Customer service mode

## 5.1 Test points

The A8 chassis is equipped with test points in the service printing. These test points are referring to the functional blocks:

- A1-A2-A3, etc.: Test points for the audio processing circuitry
- C1-C2-C3, etc.: Test points for the control circuitry
- F1-F2-F3, etc.: Test points for the frame drive and frame output circuitry
- I1-I2-I3, etc.: Test points for the intermediate frequency circuitry
- L1-L2-L3, etc.: Test points for the line drive and line output circuitry
- P1-P2-P3, etc.: Test points for the power supply
- T1-T2-T3, etc.: Test points for the teletext circuitry
- V1-V2-V3, etc.: Test points for the video processing circuitry

Measurements are performed under the following conditions:

Video: colour bar signal; audio: 3KHz left, 1KHz right

## 5.2 Service modes and Dealer Service Tool (DST)

For easy installation and diagnosis the dealer service tool (DST) RC7150 can be used. When there is no picture (to access the error code buffer via the OSD), DST can enable the functionality of displaying the contents of the entire error code buffer via the blinking LED procedure. The ordering number of the DST (RC7150) is 4822 218 21232.

### 5.2.1 Installation features for the dealer

The dealer can use the RC7150 for programming the TV-set with presets. 10 Different program tables can be programmed into the DST via a GFL TV-set (downloading from the GFL to the DST; see GFL service manuals) or by the DST-I (DST interface; ordering code 4822 218 21277). For explanation of the installation features of the DST, the directions for use of the DST are recommended (For the A8 chassis, download code 4 should be used).

### 5.2.2 Diagnose features for the servicer

A8 sets can be put in the two service modes via the RC7150. These are the Service Default Mode (SDM) and the Service Alignment Mode (SAM). SDM can also be entered by short circuiting the jumpers 9040 and 9041 on the chassis with a screwdriver.

#### Service Default Mode (SDM)

The purpose of the SDM is:

- provide a situation with predefined settings to get the same measurements as in this manual
- start the blinking LED procedure
- have to possibility to override the 5V protection

Entering the SDM:

- By transmitting the "DEFAULT" command with the RC7150 Dealer Service Tool (this works both while the set is in normal operation mode or in the SAM)
- By shorting jumpers 9040 and 9041 on the monocarrier with a screwdriver while switching on the set

By temporarily shorting jumper 9040 and 9041 when switching the set on, the 5V protection is disabled.

**CAUTION !** Overriding the 5V protection should only be used for a short period of time

#### Blinking LED procedure

When an error code is present in the error buffer, the LED will blink the number of times, equal to the value of the most current error code. For recognition of the SDM, "SDM" is displayed at the upper right side of the screen.

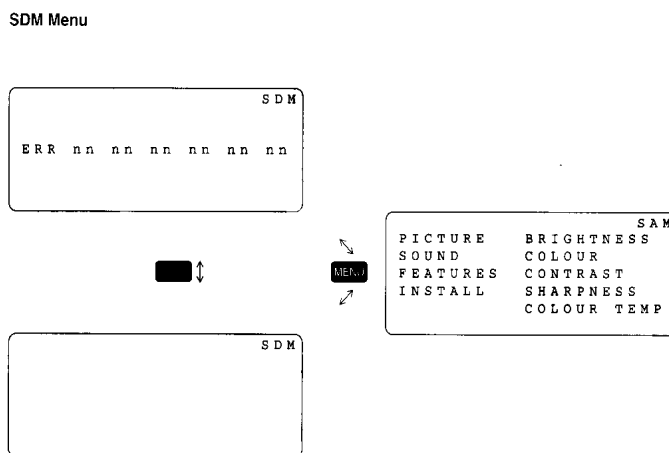


Figure 5-1 Service Default Mode screen

Exit the SDM: Switch the set to Standby (the error buffer is also cleared)

Note: When the mains power is switched off while the set is in SDM, the set will switch to SDM immediately when the mains is switched on again.

The SDM sets the following pre-defined conditions:

- Pal/Secam sets: tuning at 475.25 PAL
- NTSC sets: tuning at channel 3 (61.25MHz)

Volume level is set to 25% (of the maximum volume level). Other picture and sound settings are set to 50%. The following functions are switched off in SDM (and after leaving SDM):

- Timer
- Sleep timer

The following functions are disabled during SDM (and enabled after leaving SDM)

- Parental lock
- Hospitality Mode
- No-ident Timer (normally the set is automatically switched off when no video signal (IDENT) was received for 15 minutes).

All other controls operate normally.

#### Special functions in SDM

ACCES TO NORMAL USER MENU



Pressing the "MENU" button on the remote control switches between the SDM and the normal user menus (with the SDM mode still active in the background)

## CHANNEL SEARCH

Pressing the "P+" button of the remote control starts a tuning search. Search is indicated by a blinking led (this stops when a transmitter is found; the transmitter is stored on the highest channel number, typically this is 99 and the tv switches to this preset)

## ERROR BUFFER

Pressing the "OSD" button of the remote control shows/hides the error buffer. OSD can be hidden to prevent interference with oscillogram measurements.

## ACCES TO SAM

By pressing the "VOLUME +" and "VOLUME -" buttons on the local keyboard simultaneously the set switches from SDM to SAM.

## Service Alignment Mode (SAM)

The purpose of the SAM is to do alignments, option settings, display/clear the error code buffer and reload default values.

## ENTERING SAM:

- By transmitting the "ALIGN" command with the RC7150 Dealer Service Tool (this works both while the set is in normal operation mode or in the SDM)
- By pressing the "VOLUME +" and "VOLUME -" key on the local keyboard simultaneously when the set is in SDM

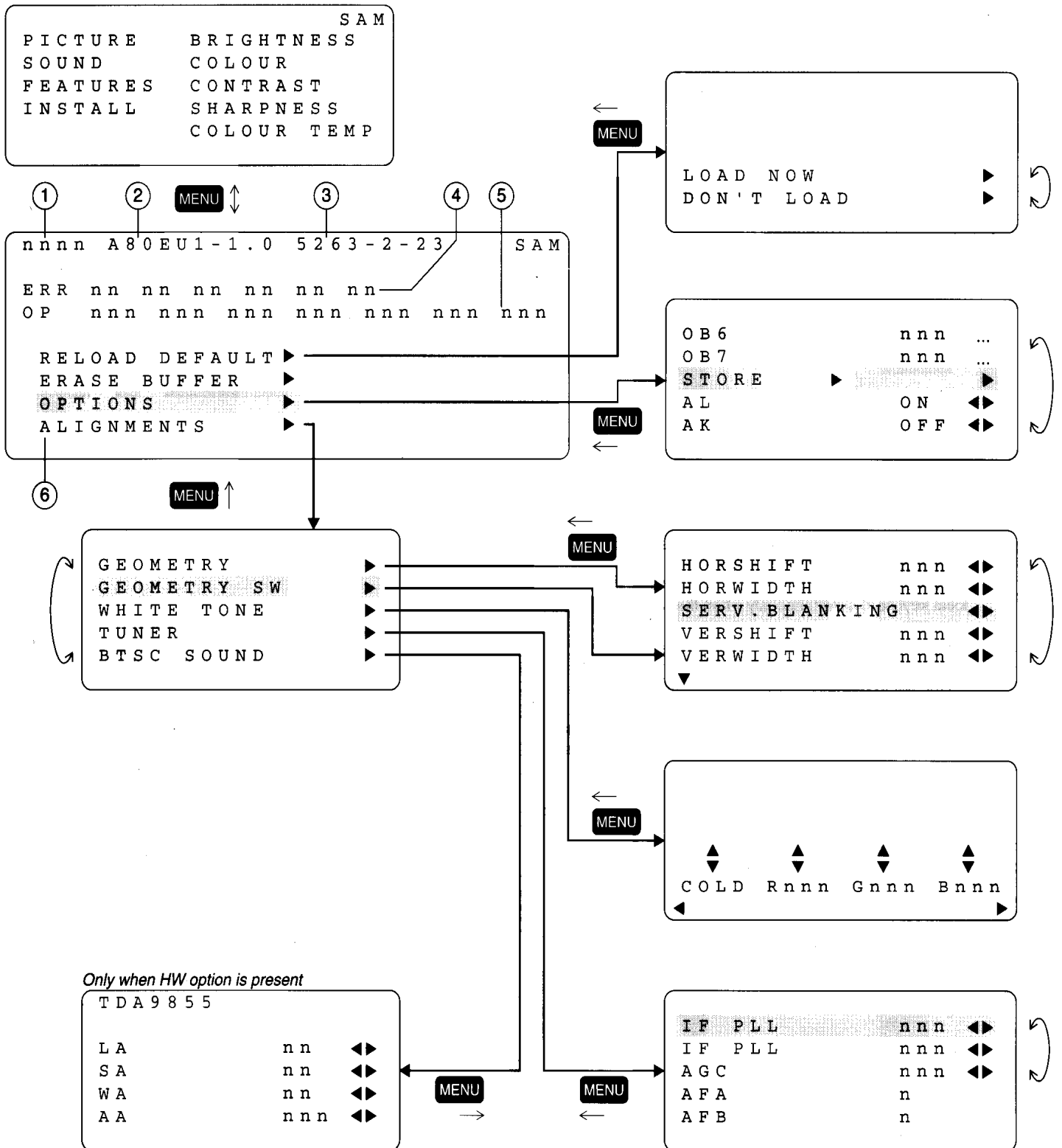
## EXIT SAM:

Switch the set to Standby (the error buffer will be erased)

Note: When the mains power is switched off while the set is in SAM, the set will enter to SDM immediately when the mains is switched on again.

In the SAM the following information is displayed on the screen:

SAM Menu



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Figure 5-2 Service Alignment Mode screens and structure

**Explanation notes/references:**

(1) Operation hours timer (hexadecimal)

(2) Software identification of the main micro controller (A80BBC-X.Y)

- A80 is the chassis name for A8.0A
- BBC is 2 letter and 1 digit combination to indicate the software type and the supported languages:
  - PN1:Pal/Multi; NO teletext; English, Malay and Chinese
  - PN2:Pal/Multi; NO teletext; English and Hindi
  - PN3:Pal/Multi; NO teletext; English and Arabic
  - PT1:Pal/Multi WITH teletext; English, Malay and Chinese
  - NG1:NTSC; 2CS sound; English and Korean
  - NB1:NTSC; BTSC sound; English and Taiwanese
- X = (main version number)
- Y = (subversion number)

(3) Software identification of a separate Teletext micro controller (DDDD E FF) (not applicable for A8.0A)

(4) Error buffer (6 errors possible)

(5) Option bytes (7 codes possible), summary of options are explained below

(6) Sub menus are listed in a scroll-menu.

**SAM MENU CONTROL**

Menu items can be selected with the cursor UP/DOWN key. The selected item will be highlighted. When not all menu items fit on the screen, moving the cursor UP/DOWN will display the next/previous menu items.

With the cursor LEFT/RIGHT keys, it is possible to:

- (de)activated the selected menu item (e.g. LOAD DEFAULT)
- change the value of the selected menu item
- activate the selected submenu (e.g. GEOMETRY)

**ACCES TO NORMAL USER MENU**

Pressing the "MENU" button on the remote control switches between the SDM and the normal user menus (with the SAM mode still active in the background). Pressing the MENU key in a submenu will go to the previous menu.

**The menus and submenus****ERASE BUFFER**

Erasing the contents of the error buffer. Select the ERASE BUFFER menu item and press the MENU RIGHT key. The contents of the error buffer is cleared.

**RELOAD DEFAULT**

Reloading memory default values. All default settings can be reloaded into the memory (EEPROM). Select the RELOAD DEFAULT menu item and press the MENU RIGHT key. Select LOAD NOW and press MENU RIGHT to reload all settings, then switch the set to STANDBY. The default settings are activated when the set is switched on. CAUTION! Use this menu with extreme care. Otherwise customer settings will be lost.

The functionality of the OPTIONS and ALIGNMENTS (GEOMETRY, GEOMETRY SW, WHITE TONE, TUNER and BTSC SOUND) sub menus is described in chapter 8.

**5.3 Error code buffer and error codes****5.3.1 Error code buffer**

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right.

- when an error occurs that is not yet in the error code buffer, the error is written at the left side and all other errors shift one position to the right
- the error code buffer will be cleared in the following cases:
  - by activating the ERASE BUFFER in SAM menu
    1. exiting SDM or SAM with the "Standby" command on the remote control
    2. transmitting the commands "DIAGNOSE 99 OK" with the DST (RC7150) or with Compair
  - The error buffer will be automatically reset if its contents have not changed for 50 hours
  - By leaving SDM or SAM with the mains switch, the error buffer is not reset.

Examples:

ERROR: 0 0 0 0 0 0: No errors detected

ERROR: 6 0 0 0 0 0: Error code 6 is the last and only detected error

ERROR: 5 6 0 0 0 0: Error code 6 was first detected and error code 5 is the last detected (newest) error

**5.3.2 Error codes**

In case of a non-intermittent faults, clear the error buffer before starting the repair to prevent that "old" error codes are present. When possible check the entire content of the error buffers. In some situations an error code is only the RESULT of another error code (and not the actual cause).

Note: a fault in the protection detection circuitry can also lead to a protection.

Error 0 = No error

Error 1 = X-ray protection, E/W protection and/or Vertical protection. X-ray protection, E/W protection and/or Vertical protection active; set is switched to protection; error code 1 is placed in the error buffer; the LED will blink 1 time (repeatedly). If this happens, isolate each circuit to determine the cause. These circuits are:

- X-Ray protection:
- If this protection is active, the most likely cause is the LOT.
- EW protection:
- If this protection is active, the causes could be one of the following:
  - bad contacts of:
  - horizontal deflection coil
  - linearity coil 5621
  - S-correction capacitor 2629/2630
  - flyback capacitor 2613/2625
  - line output stage
  - short circuit of:
  - flyback diode 6621

- EW transformer (bridge coil) 5624/5625 or 5680/5682/5683 (version dependent)
  - S-correction capacitor 2629/2630
  - EW driver 7680
- Vertical protection:
  - If this protection is active, the causes could be one of the following (most likely in the vertical output stage):
    - 7700 is faulty
    - poor contact or open circuit of deflection coil
    - +13V\_+20V and/or -13V not present

Error 2 = High beam current protection. High beam protection active; set is switched to protection; error code 2 is placed in the error buffer; the LED will blink 2 times (repeatedly). As the name implies, the cause of this protection is a too high beam current (bright screen with flyback lines). Check whether the +200V supply to the CRT panel is present. If the voltage is present, the most like cause is the CRT panel or the picture tube. Disconnect the CRT panel to determine the cause. If the +200V voltage is not present, check R3840, R3643 and D6641.

Error 3 = Reserved

Error 4 = +5V protection. 5V protection active; set is switched to protection; error code 4 is placed in the error buffer; the LED will blink 4 times (repeatedly). A 5V failure can cause a drop in the 5V supply output, resulting in undefined behaviour of the set. Therefore, all I2C devices connected to the 5V supply are constantly monitored. When non of these devices responds to the micro controller for a prolonged time, the micro controller assumes that there is a failure in the 5V supply. By starting up the set with the service jumpers shorted, the 5V protection is disabled and it is easier to determine the cause.

+5V protection will be activated when these I2C devices fail (no I2C communication):

- Main Tuner 1125 on main panel
- ITT sound processor IC7430 on main panel
- PIP tuner (if present) on DW or YC PIP panel
- OSD generator IC7101 on OSD panel

The following tips are useful to isolate the problem area after overriding the +5V protection. Determine whether:

1. the +5V source is working properly; isolate coil 5430 and jumper 9044 and measure the +5V
2. ITT sound processor circuit is loading the +5V; isolate coil 5430
3. the main tuner, PIP tuner, or OSD circuitry is loading the +5V source; isolate jumper 9044
4. main tuner circuit is loading the +5V source; isolate coil 5100
5. OSD or PIP circuit is loading the +5V source; unplug the panel
6. PIP circuit is loading the +5V source; unplug J9Q2 (DW) or P07 (YC) on panel

Caution! Overriding the 5V protection when there is a 5V failure can increase the temperature in the set and may cause permanent damage to components. Do not override the 5V protection for a prolonged time.

Error 5 = Bimos software protection active (Bimos start-up register is corrupted or the I2C line to the Bimos is always low or no supply at pin 12 of the BiMOS). This error is usually detected during start-up and hence will prevent the set from starting up. Note that this error may also be reported as a result of error codes 1 or 2 (in that case the Bimos might not be the actual problem)

Error 6 = Bimos (TDA884X) I2C error. Note that this error may also be reported as a result of error codes 1 or 2 (in that case the Bimos might not be the actual problem)

Error 7 = General I2C error. This will occur in the following cases:

- SCL or SDA is shorted to ground
- SCL is shorted to SDA
- SDA or SCL connection at the micro controller is open circuit.

Error 8 = Microprocessor internal RAM error. The micro controller internal RAM test indicated an error of the micro controller internal memory (tested during start-up);

Error 9 = OSD generator I2C error (PCA8516). PCA8516 does not respond to the micro controller

Error 10 = NV memory I2C error. NV memory (EEPROM) does not respond to the micro controller

Error 11 = micro controller / NV Memory identification error. During the last start-up the NVM and the micro controller did not recognize each other (e.g. one of them was replaced), therefore the NVM was loaded with default values.

Error 12 = YUV IC I2C error (TDA9178). TDA9178 does not respond to the micro controller

Error 13 = Reserved

Error 14 = Sound processor I2C error (MSP34XX/TDA9855). Sound controller MSP3400, MSP3410 or TDA9855 does not respond to the micro controller

Error 15 = Reserved

Error 16 = PLL tuner I2C error. The PLL tuner does not respond to the micro controller

Error 17 = PIP processor I2C error (MC4446X). PIP processor MC4446x does not respond to the micro controller

Error 18 = 2nd tuner I2C error. The 2nd tuner (PIP/DW) does not respond to the micro controller

Error 19 = Reserved

Error 20 = Reserved

Error 21 = Reserved

Error 22 = Reserved

Error codes 1, 2, 4 and 5 are protection codes and in this case supplies of some circuits will be switched off. Also, in protection the LED will blink the number of times equivalent to the most recent error code.

### 5.3.3 Error code table

**Table 5-1**

Err or code	Error description	Possible defective components
0	No error detected	-
1	X-ray protection / EW and/or Vert protection active	EW/Vertical circuit is defective
2	High beam protection active	CRT amplifier circuit or picture tube, or +200V is missing
3	Reserved	
4	5V protection active	+5V supply line is low or short circuit
5	BIMOS	s/w protection active or BIMOS register is corrupted IC7150
6	BIMOS I2C	error IC7150
7	General I2C bus error	I2C bus s/c or o/c on uP
8	Main uP Internal RAM error	IC7000
9	OSD generator I2C error	IC7101 on OSD panel
10	NVM I2C error	IC7088
11	NVM identification error	IC7088
12	Histogram I2C error	IC7770 on YUV interface panel
13	Reserved	
14	Sound processor I2C error	IC7430 (2CS/ Nicam) or IC7437 (BTSC)
15	Reserved	
16	Main tuner I2C error	U1125
17	PIP processor I2C error	IC7350 on PIP panel
18	2nd tuner PIP I2C error	U1126 or U1127 on PIP panel
19	Reserved	
20	Reserved	
21	Reserved	
22	Reserved	

### 5.4 The "blinking LED" procedure

The contents of the error buffer can also be made visible through the "blinking LED" procedure. This is especially useful when there is no picture. There are two methods:

1. When the SDM is entered, the LED will blink the number of times, equal to the value of the last (newest) error code (repeatedly).
2. With the DST all error codes in the error buffer can be made visible. Transmit the command:

"DIAGNOSE x OK" where x is the position in the error buffer to be made visible

x ranges from 1, (the last (actual) error) to 6 (the first error)

The LED will operate in the same way as in point 1, but now for the error code on position x.

Example:

Error code position 1 2 3 4 5 6

Error buffer: 8 9 5 0 0 0

- after entering SDM
- blink (8x) - pause - blink (8x) - etc.
- after transmitting "DIAGNOSE 2 OK" with the DST blink (9x) - pause - blink (9x) - etc.
- after transmitting "DIAGNOSE 3 OK" with the DST blink(5x) - pause - blink(5x) - etc.
- after transmitting "DIAGNOSE 4 OK" with the DST nothing happens

NOTE: If errors 1, 2, 4 or 5 occurs the LED ALWAYS blinks the last occurred error, even if the set is NOT in service mode.

### 5.5 Trouble shooting tips

In this paragraph some trouble shooting tips for the deflection and power supply circuitry are described. For detailed diagnostics, check the fault finding tree.

#### 5.5.1 THE DEFLECTION CIRCUIT:

1. Measure the VBAT (140V) is present across 2917 (A1 POWER SUPPLY). If the voltage is not present, disconnect coil 5930 (A1 Power Supply) (whole horizontal deflection stage is disconnected). If the voltage is present then the problem might be caused by the deflection circuit.  
Possibilities:
  - Transistor 7620 is faulty
  - The driver circuit around transistor 7610 is faulty
  - No horizontal drive signal coming from the BIMOS 7150-D pin 40
2. Note: If the C and E of 7620 is shorted, hick-up noise can be heard from the power supply circuit.
3. To determine whether the fault is present in the horizontal deflection circuit (A2 HOR .DEFLECTION+LINE OUTPUT) or in the EW circuit/panel (screen size above 21"), desolder E61 pin 13 or M61 pin 13 (in this case the EW protection is disable) and insert jumpers into position numbers 9605 and 9614. If the basic deflection is working (picture is parabolic distorted), then the fault is located in the EW circuit/panel. If there is no hor. deflection, the fault is present in the basic deflection circuitry.
4. Also take note of protection circuits in the line output stage. If any of these circuits are activated, the set shutdown. Depending on protections, the LED will blink according to the fault defined. In order to determine which protection circuit is active, isolation of circuits is necessary. These protection circuits are:
  - High beam protection (LED blinks repetitively 2 times): see error code 2 explanation.

- Any of the following protection circuit is active, it will cause LED to blink repetitively 1 times. If this happen, isolate each circuit to determine the cause.; see error code 1.

### 5.5.2 THE POWER SUPPLY.

To trouble shoot the A8 SMPS, first check the +5V\_STBY voltage on IC7907, pin 7. If this voltage is not present, check fuse 1906 and D6917. If 1906 or D6917 is not open circuit, the problem might be caused on the primary side of the switching supply. Check the output of the bridge diodes on the cathode side of D6931/D6903 pin 1 for approximately 300V DC. If this voltage is missing, check the bridge diodes and the fuse 1900 on the mains filter panel (H circuit). If fuse F1900 is found open, check IC7902 (circuit A1) between pins 3 and 2 to make sure that there is no short circuit present. If the 300V DC is present on pin 3 of IC7902, check for a startup voltage of 16V on pin 4 of IC7902. If no startup voltage is present, check if R3917 is open; a short circuit between pin 4 and 5 will also cause this problem. It is necessary to have a feedback signal from the hot secondary side of switch mode transformer T5912 at pin 8 and pin 9 for the power supply to oscillate. If this startup voltage is present on pin 4 of IC7902 and the supply is not oscillating, check R3959 and D6908.

The A8 powersupply has been designed with Over Voltage Protection (OVP). To determined whether OVP is active, check whether +5V standby is present at IC7907 pin 7. If not, check the components 1905, 6914, 6960, 3926 and 3920. If these components are O.K., then replace opto-coupler 7950.

Another way to confirm whether OVP is active is to measure the voltage with an oscilloscope at IC7902 pin 4. If the voltage is fluctuating between 11-14V, then check the components as described in the above mentioned paragraph.

## 5.6 Customer Service Mode (CSM)

All A8.0 sets are equipped with the "Customer Service Mode" (CSM). CSM is a special service mode that can be activated and deactivated by the customer, upon request of the service technician/dealer during a telephone conversation in order to identify the status of the set. This CSM is a 'read only' mode, therefore modifications in this mode are not possible.

### Entering the Customer Service Mode.

The Customer Service Mode can be switched on by pressing simultaneously the button (MUTE) on the remote control and any key on the control buttons (P+, P-, VOL +, VOL -) on the TV for at least 4 seconds.

### When the CSM is activated:

- picture and sound settings are set to nominal levels
- modes that interfere with the behaviour of the set are switched off (sleep timer, auto standby, etc.)

### Exit the Customer Service Mode.

### The Customer Service Mode will switch off after:

- pressing any key on the remote control handset (except "P+" or "P-")

- switching off the TV set with the mains switch.

All settings that were changed at activation of CSM are set back to the initial values

### 5.6.1 The Customer Service Mode information screen

After switching on the Customer Service Mode the following screen will appear.

#### CSM Menu

```

1  n n n n  A A A B B C - X . Y  D D D D - E - F F      C S M
2  C O D E S  n n  n n  n n  n n  n n  n n
3  O P  n n n  n n n  n n n  n n n  n n n  n n n
4  S Y S      H O S P
5  S L E E P  N O T  T U N E D
6  L O C K    S K I P P E D
7  T I M E R

```

CL 86532036\_002.nl  
260598

Figure 5-3 Customer Service Mode screen

The Customer Service Menu shows the following information:

- "nnnnn" displayed on line 1

Hexadecimal counter of operating hours. Standby hours are not counted as operating hours.

- "A80BBC-X.Y" displayed on line 1

Software identification of the main micro controller. See paragraph 5.2. Details on available software versions can be found in the chapter "Software Survey" of the publication "Product Survey - Colour Television".

- "CODES xx xx xx xx xx xx" displayed on line 2

Error code buffer (see paragraph 5.3). Displays the last 6 errors of the error code buffer. As soon as the built-in diagnosis software has detected an error the buffer is adapted. The latest (=newest) error is displayed on the leftmost position. Each error code is displayed as a 1 or 2 digit number. When less than 6 errors occur, the rest of the position(s) is(are) displayed as '0'. See paragraph 5.3 of this chapter for a detailed description of the error codes.

- "OP xxx xxx xxx xxx xxx xxx" displayed on line 3

Option bytes. Software and hardware functionality of the A8.0 is controlled by option bits. An option byte or option number represents 8 of those bits. Each option number is displayed as a decimal number between 0 and 255. The set may not work correctly when an incorrect option code is set. See chapter 8 for more information on correct option settings

- "SYS XXXXX" displayed on line 4

Indicates which colour and sound system is installed for this preset:

- AUTO
- PAL BG
- PAL I
- PAL DK
- SECAM DK
- NTSC-M

Complaints that may be caused by an incorrect system setting:

- no colours
- colours not correct
- unstable picture
- noise in picture
- distorted sound / no sound

To change the system setting of a preset:

- press the "MENU" button on the remote control
- select the INSTALL sub menu
- select the MANUAL STORE sub menu
- select and change the SYSTEM setting until picture and sound are correct
- select the STORE menu item

"HOSP" displayed on line 4 of the CSM menu. Indicates that the "hospitality" mode is enabled. Complaints that may be caused by the activation of "hospitality mode":

- "HOSPITALITY ON" displayed on TV screen
- Installation menu does not work
- Personal presets are not automatically stored
- Volume level cannot be increased above a certain level
- Some channels/presets are blanked (only audio)

To switch off the hospitality mode:

- go to preset 38
- press the "OSD" and "MENU" buttons on the local keyboard simultaneously for 3 seconds

- "SLEEP" displayed on line 5 of the CSM screen

Indicates that the sleep timer is running. Complaints that may be caused by the activation of the sleep timer:

- set displays "GOOD BYE" and switches to standby

To switch off the sleep timer:

- press the top left button on the remote control until repeatedly until "SLEEP 0" is displayed in the middle of the screen.

- "NOT TUNED" on line 5 of the CSM screen.

Indicates that the set is not receiving an "ident" signal on this channel / preset. Situations which can will result in the display of "NOT TUNED":

- no or bad antenna signal; connect a proper antenna signal
- antenna not connected; connect the antenna
- no channel / preset is stored at this program number; go to the INSTALL menu and store a proper channel at this program number
- the tuner is faulty (in this case the CODES line will contain number 16); check the tuner and replace/repair if necessary

Note: On some models, BLUE MUTE is displayed (if the BM option is ON) when no signal is received.

- "LOCK" on line 6 of the CSM screen

On Pal/Multi sets:

Indicates that all channels are locked except the selected channel. Complaint that may be caused by locked channels:

- TV cannot be switched on from standby with the local keyboard buttons

- "P+" and "P-" buttons on local keyboard do not function

To disable the LOCK feature:

1. select "FEATURE" menu (with the Remote Control)
2. select "LOCK" (with the RC)
3. set to "OFF"

On NTSC sets:

Indicates if the channel is blocked via the parental or smart lock. To switch off the parental lock

1. select the blocked channel
2. give in the 4 digit access code

To change the parental code when the code is "lost":

1. select "FEATURE" menu
2. select "PARENTAL LOCK"
3. select "SETUP CODE"
4. key in "0711"
5. key in "0711" again

The parental code is now 0711.

- "SKIPPED" displayed on line 6 of the CSM screen.

Indicates that at least one channel is deleted as a preferred channels (by default, all channels are skipped. Note that "SKIPPED" will always be displayed in CSM unless all the channels are not skipped. A channel can be added as a selected channel to the list of preferred channels:

1. select "INSTALL" menu
2. select "CHANNEL EDIT"
3. select "ADD/DELETE"
4. set to "ADD" with the left/right cursor keys

- "TIMER" displayed on line 7 of the CSM screen.

Indicates that the on/off timer is running. Complaints that may be caused by the activation of the sleep timer;

- Without using the remote control of the local keyboard the set is switching:
  - on from standby;
  - to a different channel

To switch off the activation timer:

- select "TIMER" in the "FEATURE" menu
- select "ACTIVATE" in the "TIMER" menu
- set to "OFF" with the left/right cursor keys

### 5.6.2 Solving other problems

TV switched off or changed channel without any user action. Set switches off after "TV SWITCHING OFF" was displayed. Auto standby switched the set off because:

- there was no ident signal > 15 minutes
- there was no remote control signal received or local key pressed for > 2 hours

See chapter 8 for a description on the options to enable/disable auto standby

### Picture problems. Picture too dark or too bright

- Press "Smart Picture" button on the remote control. In case the picture improves, increase / decrease the brightness

## 5 Service modes, error messages and repair tips

value or increase / decrease the contrast value. The new "Personal Preference" value is automatically stored after 3 minutes

- After switching on the Customer Service Mode the picture is OK. Increase / decrease the brightness value or increase / decrease the contrast value. The new "Personal Preference" value is automatically stored after 3 minutes

### White line around picture elements and text

- press "Smart Picture" button on the remote control. In case the picture improves, decrease the sharpness value. The new "Personal Preference" value is automatically stored after 3 minutes
- after switching on the Customer Service Mode the picture is OK. Decrease the sharpness value. The new "Personal Preference" value is automatically stored after 3 minutes

### Snowy picture

- check the "NOT TUNED" section of the Customer Service Mode screen

### Snowy picture and/or unstable picture

- a scrambled or decoded signal is received

### Black and white picture

- press "Smart Picture" button on the remote control. In case picture improves, increase the colour value. The new "Personal Preference" value is automatically stored after 3 minutes
- after switching on the Customer Service Mode the picture is OK. Increase the colour value. The new "Personal Preference" value is automatically stored after 3 minutes

### Menu text not sharp enough

- press "Smart Picture" button on the remote control. In case the picture improves, decrease the contrast value. The new "Personal Preference" value is automatically stored after 3 minutes
- after switching on the Customer Service Mode the picture is OK. Decrease the contrast value. The new "Personal Preference" value is automatically stored after 3 minutes

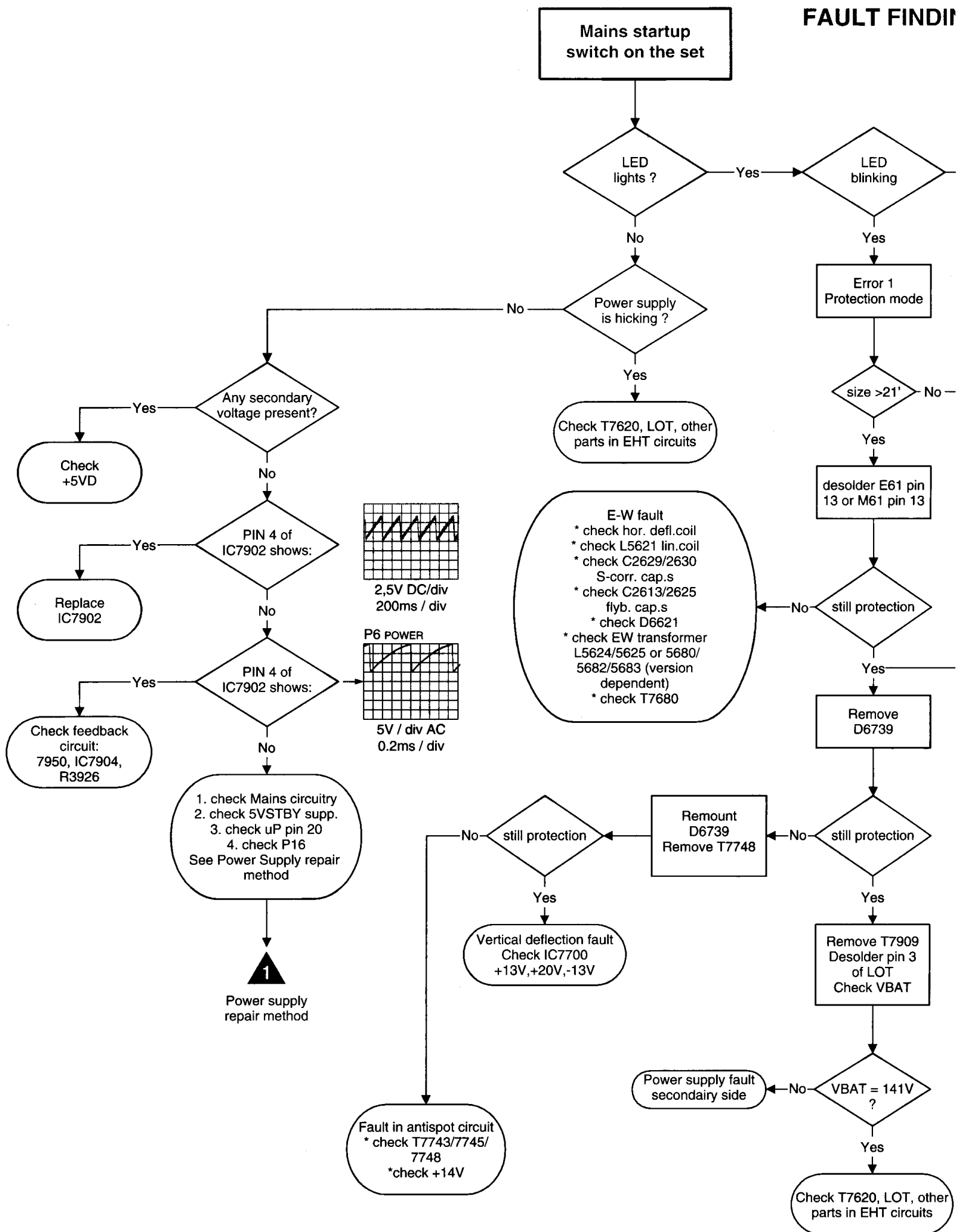
### Sound problems.

No sound or sound too loud (after channel change / switching on)

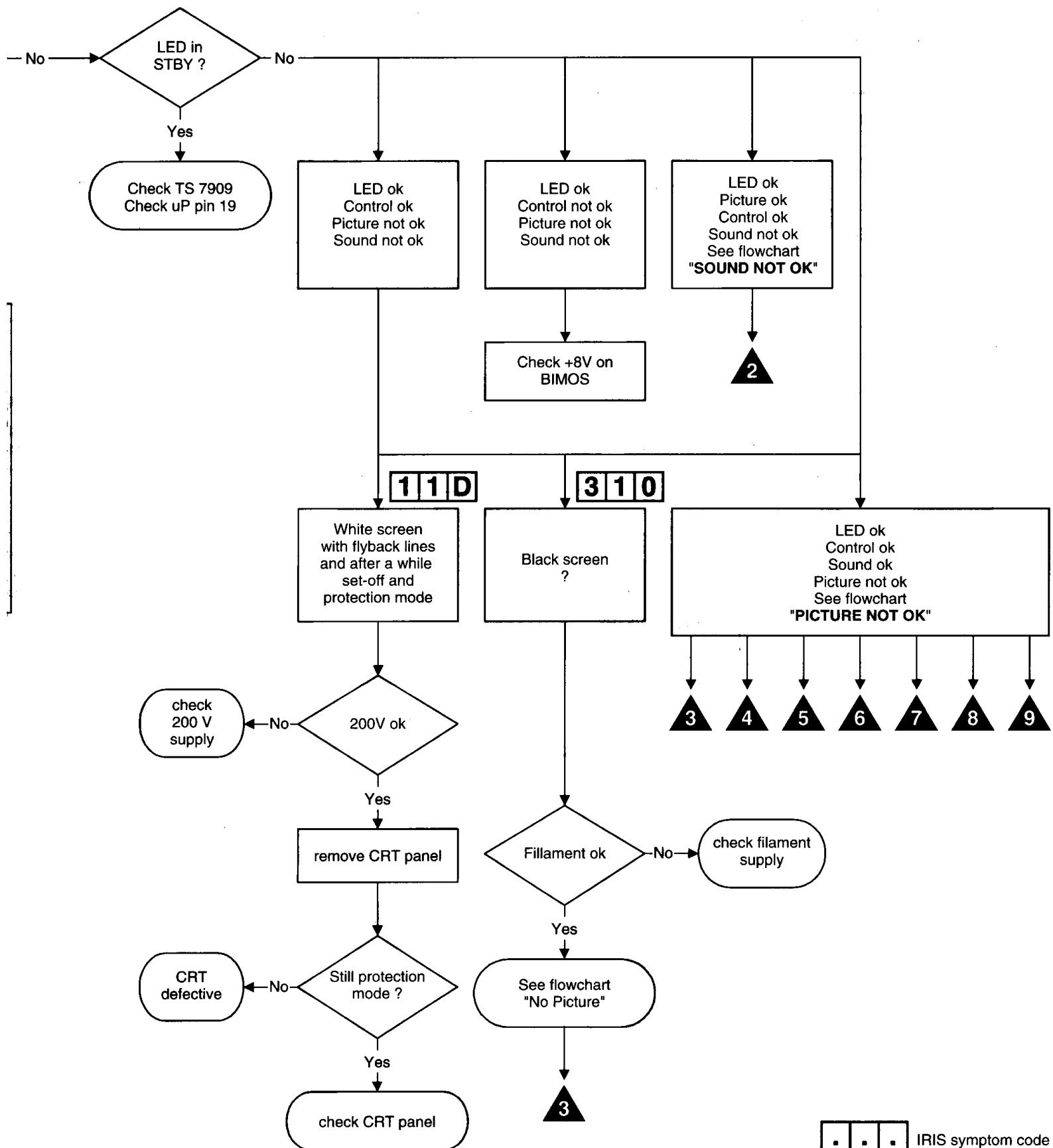
- after switching on the Customer Service Mode the volume is OK. Increase / decrease the volume level. The new "Personal Preference" value is automatically stored after 3 minutes



FAULT FINDING



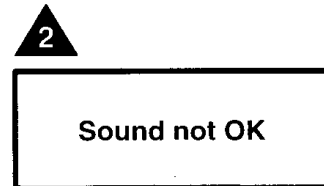
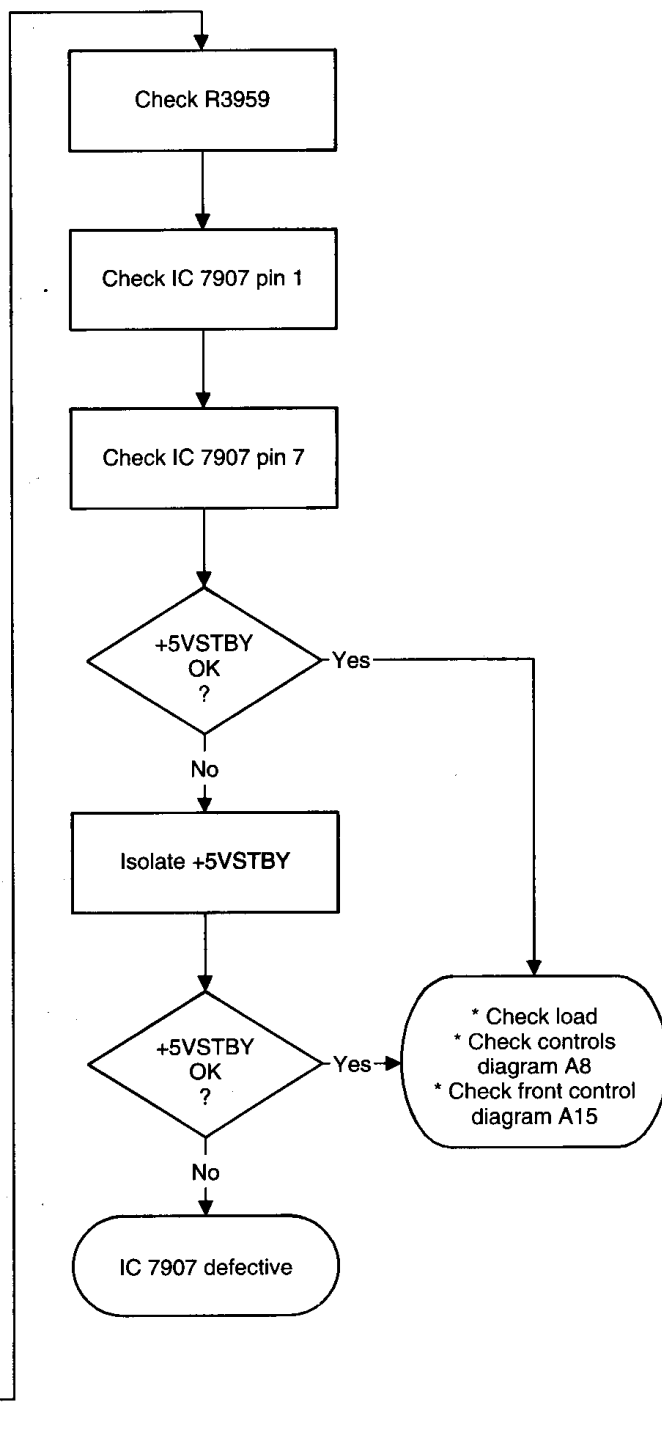
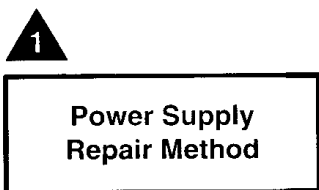
# IRIS TREE LSP A8 CHASSIS



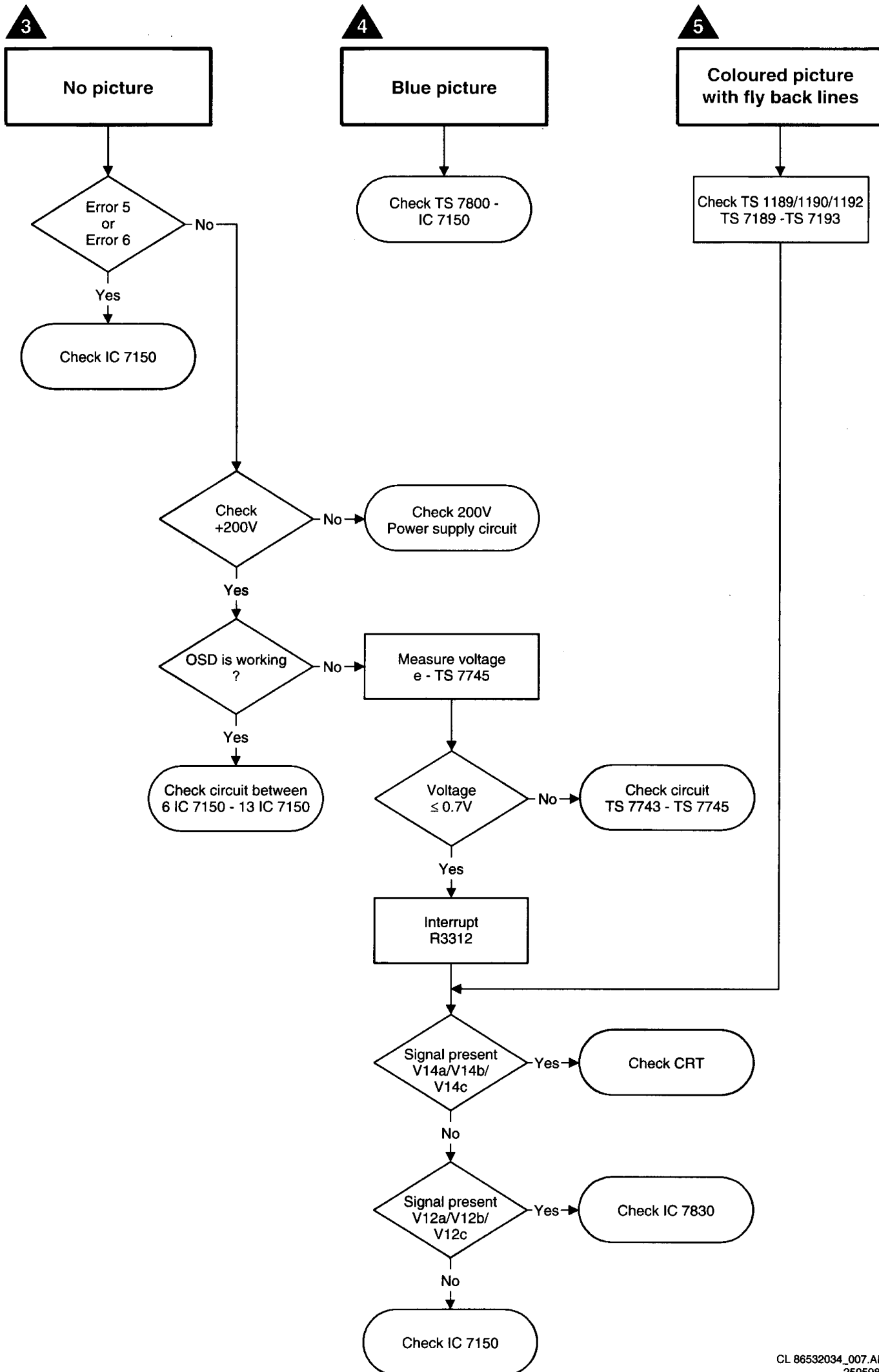
IRIS symptom code

## POWER SUPPLY REPAIR METHOD

## SOUND NOT OK



# PICTURE NOT OK



IC 7430

k 15V  
ply circuit

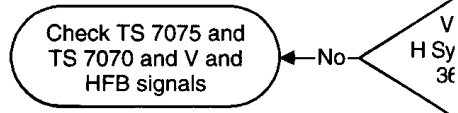
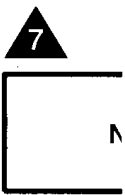
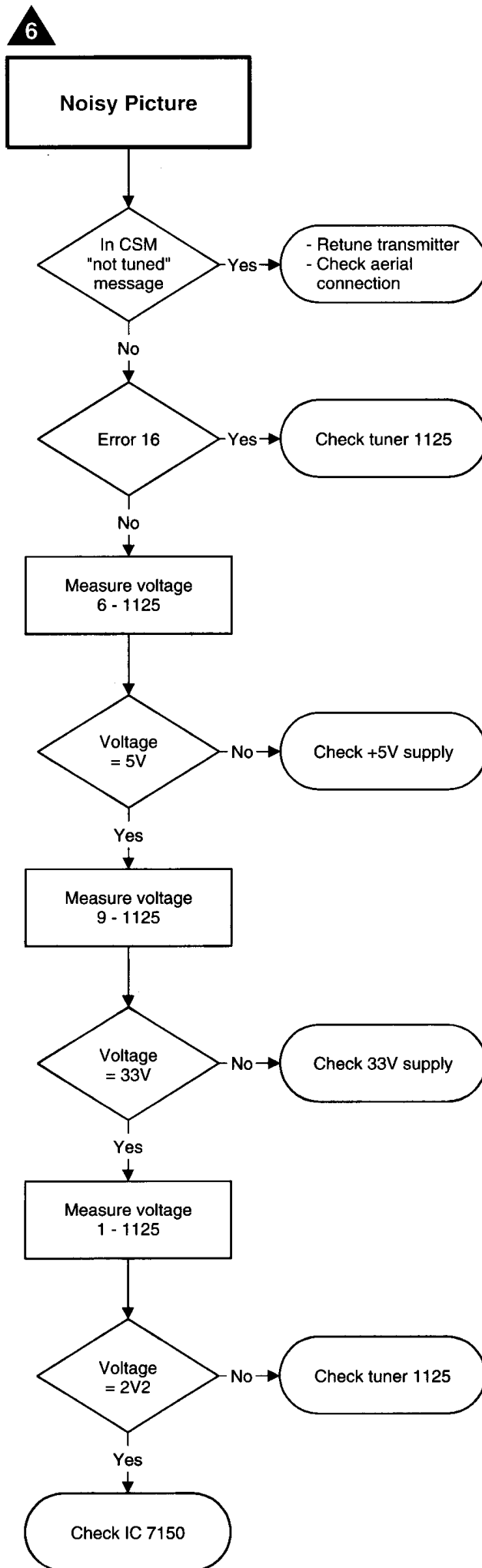
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reaker

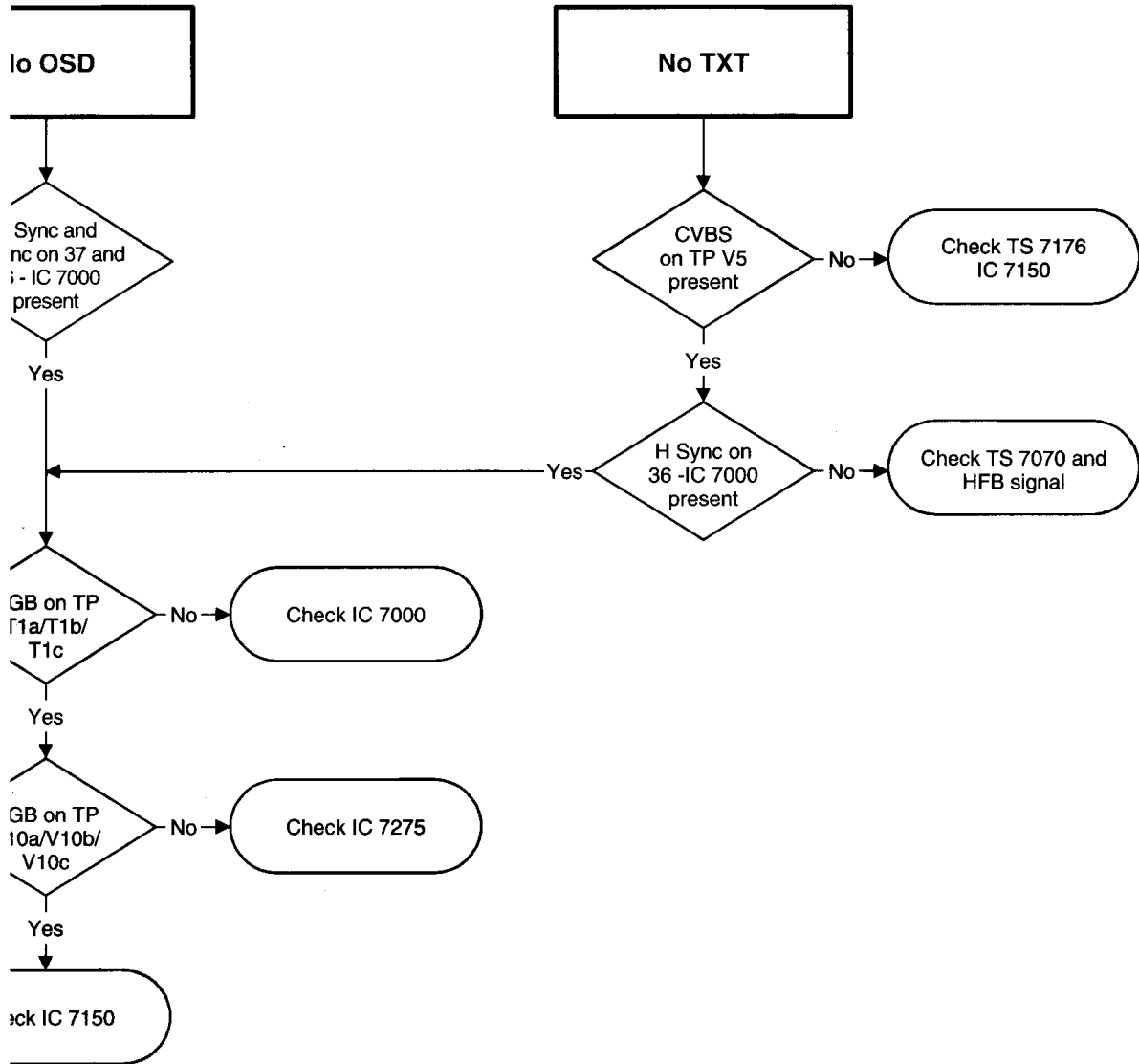
te circuit  
1/7552

C 7550

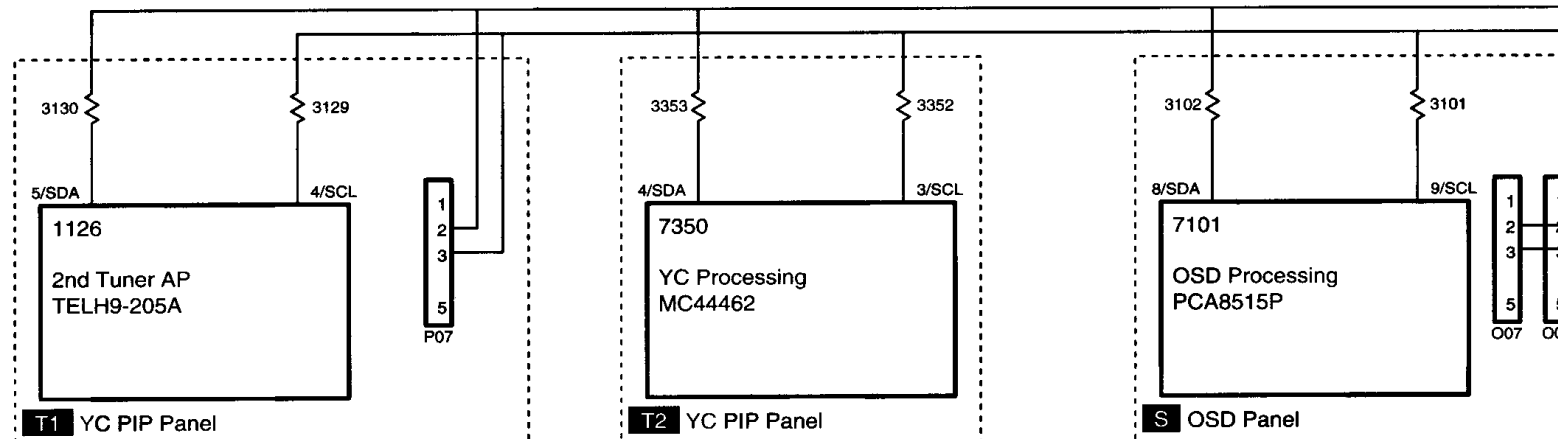
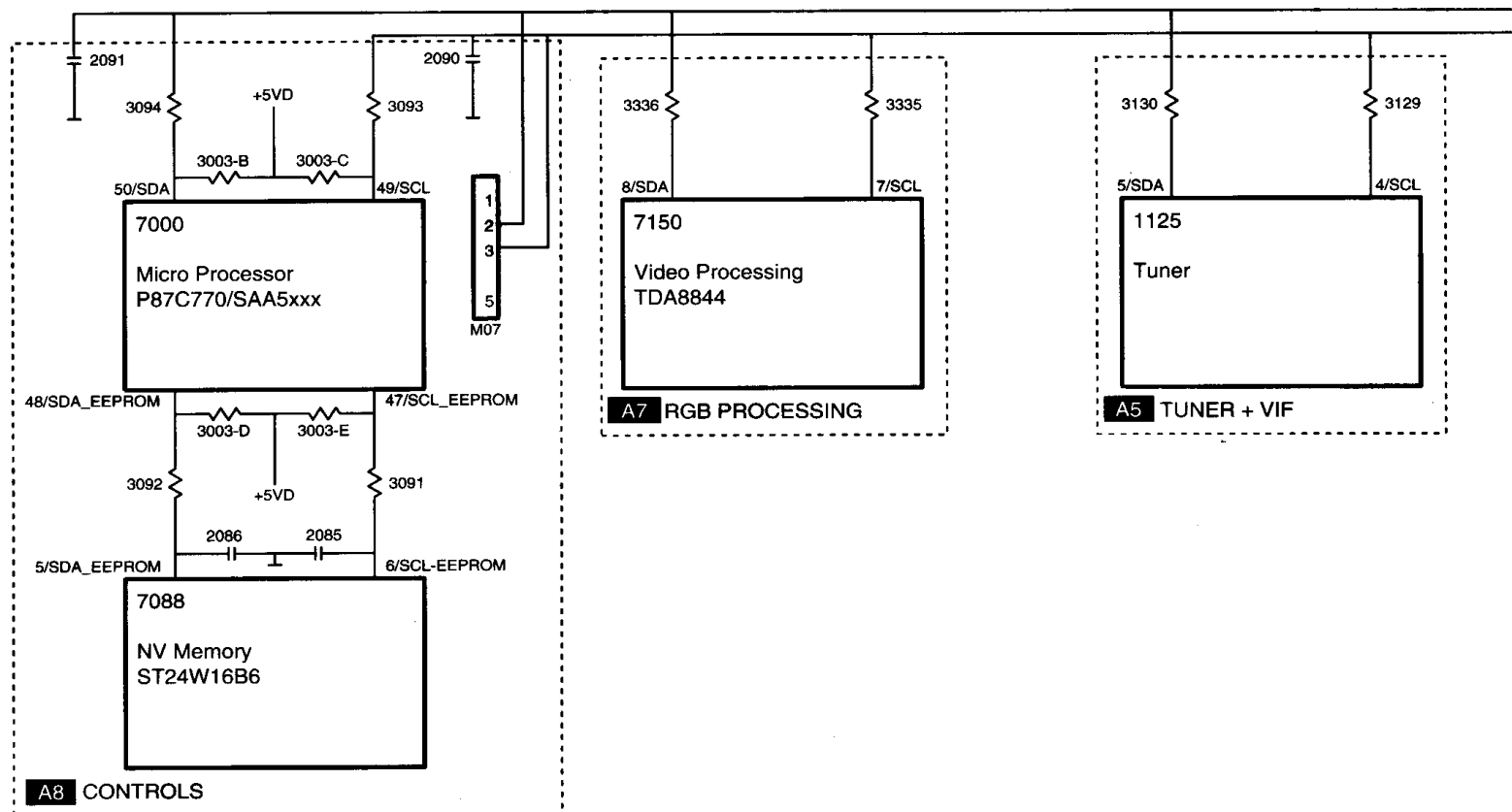
C 7430

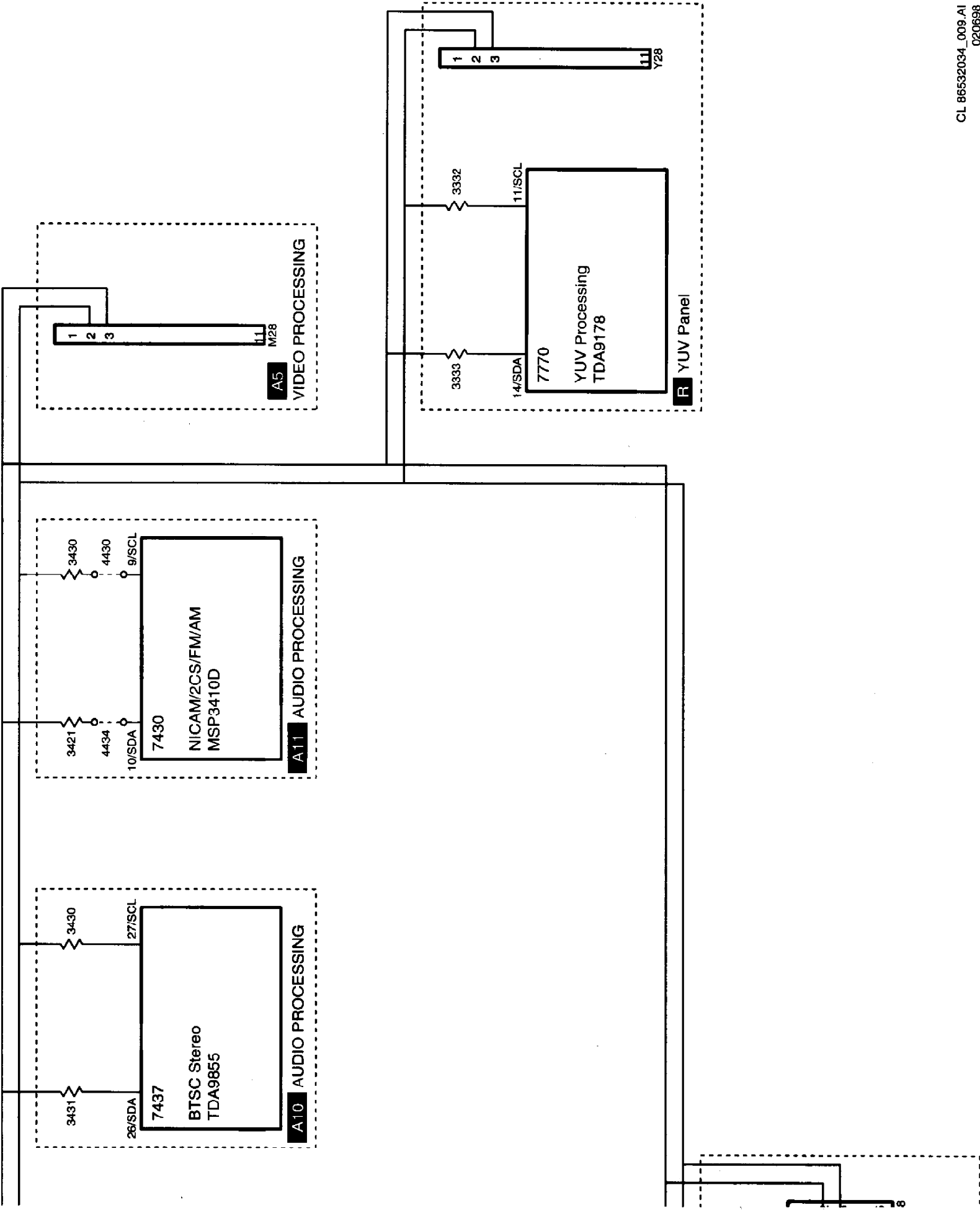
PICTURE NOT OK





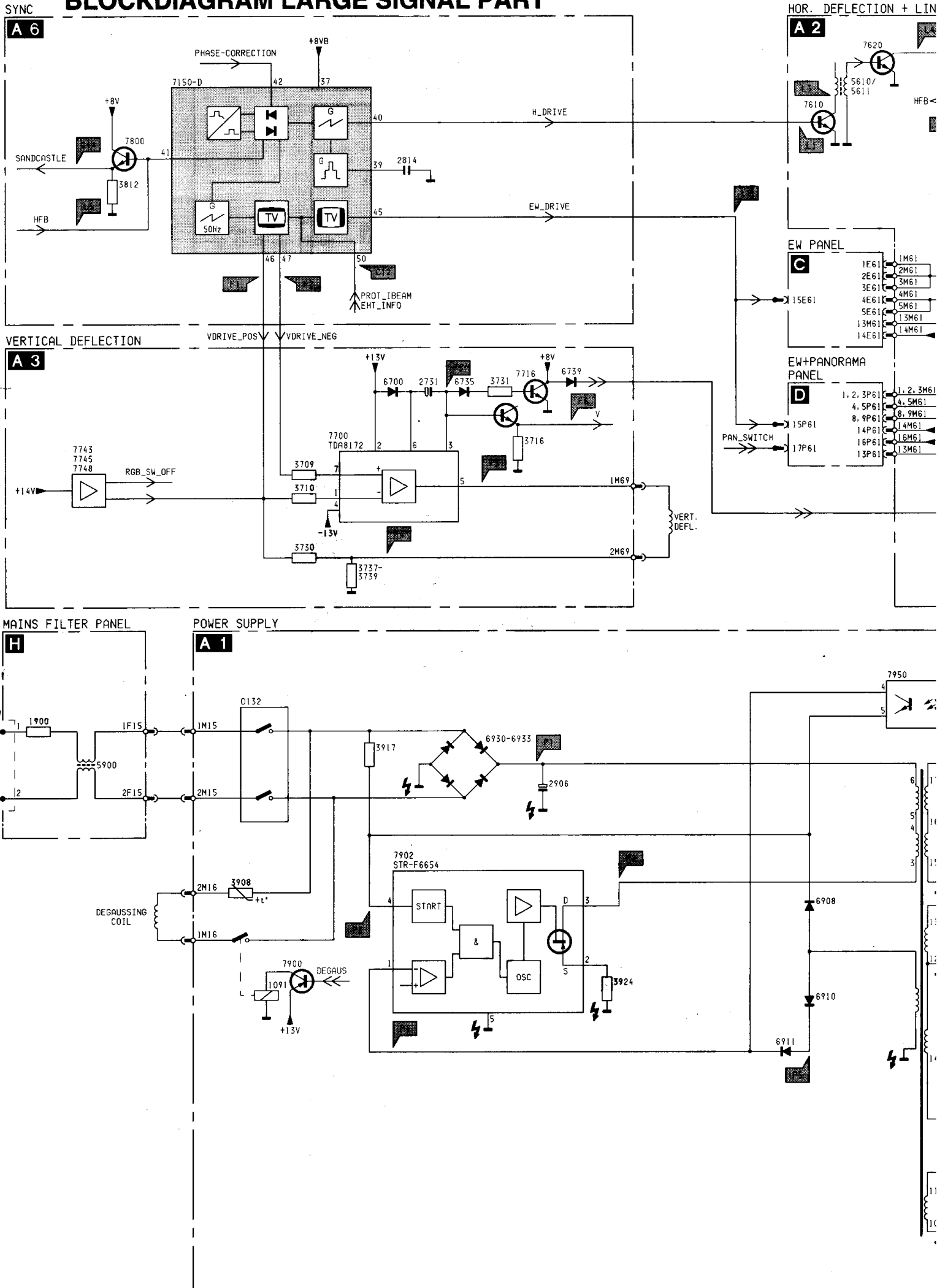
### IIC Diagram

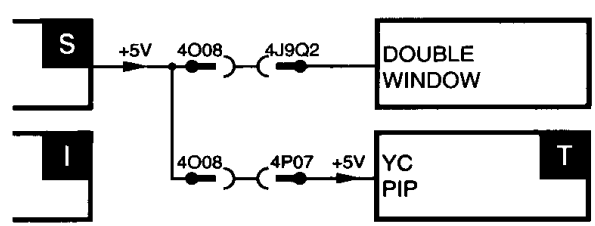
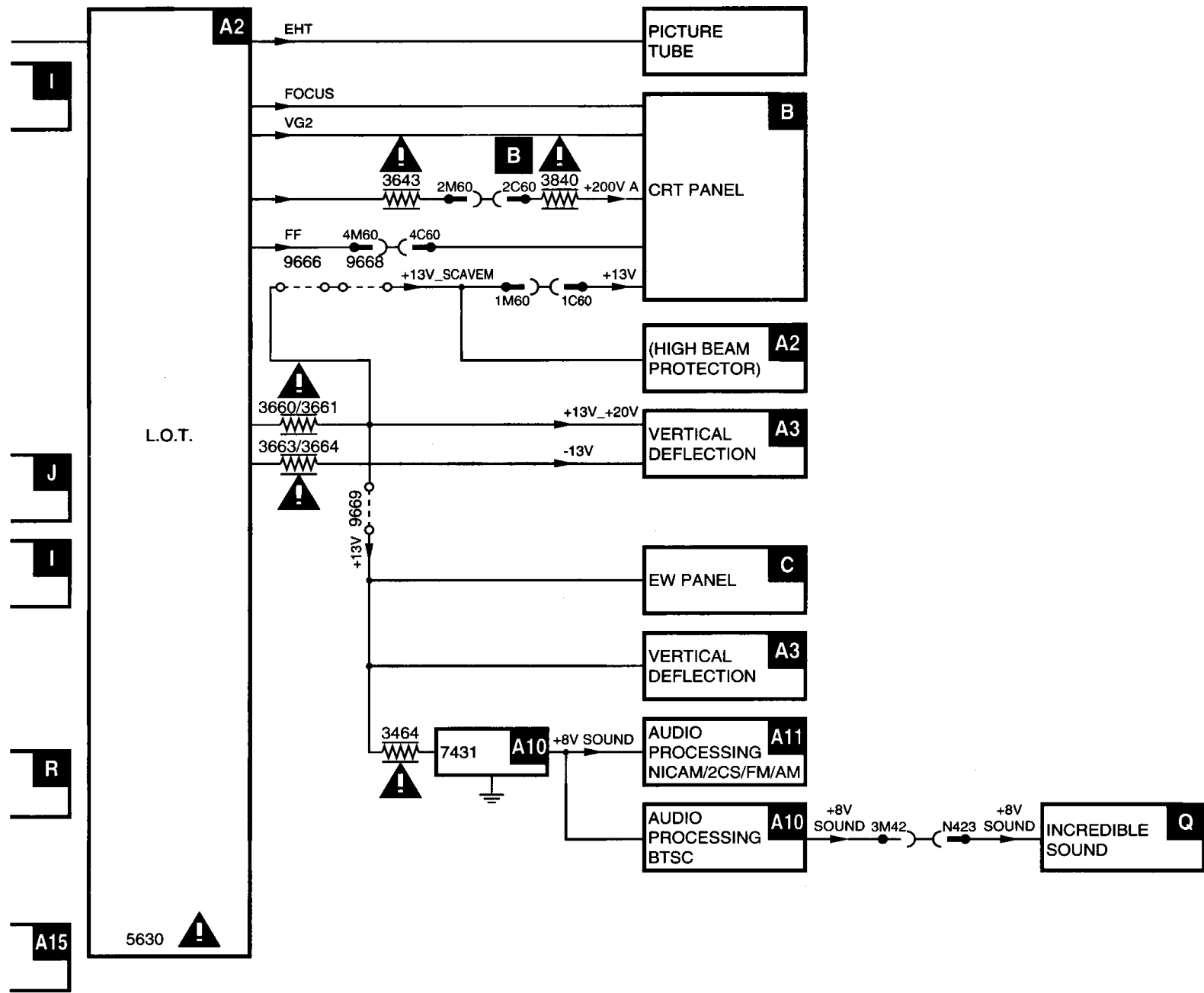




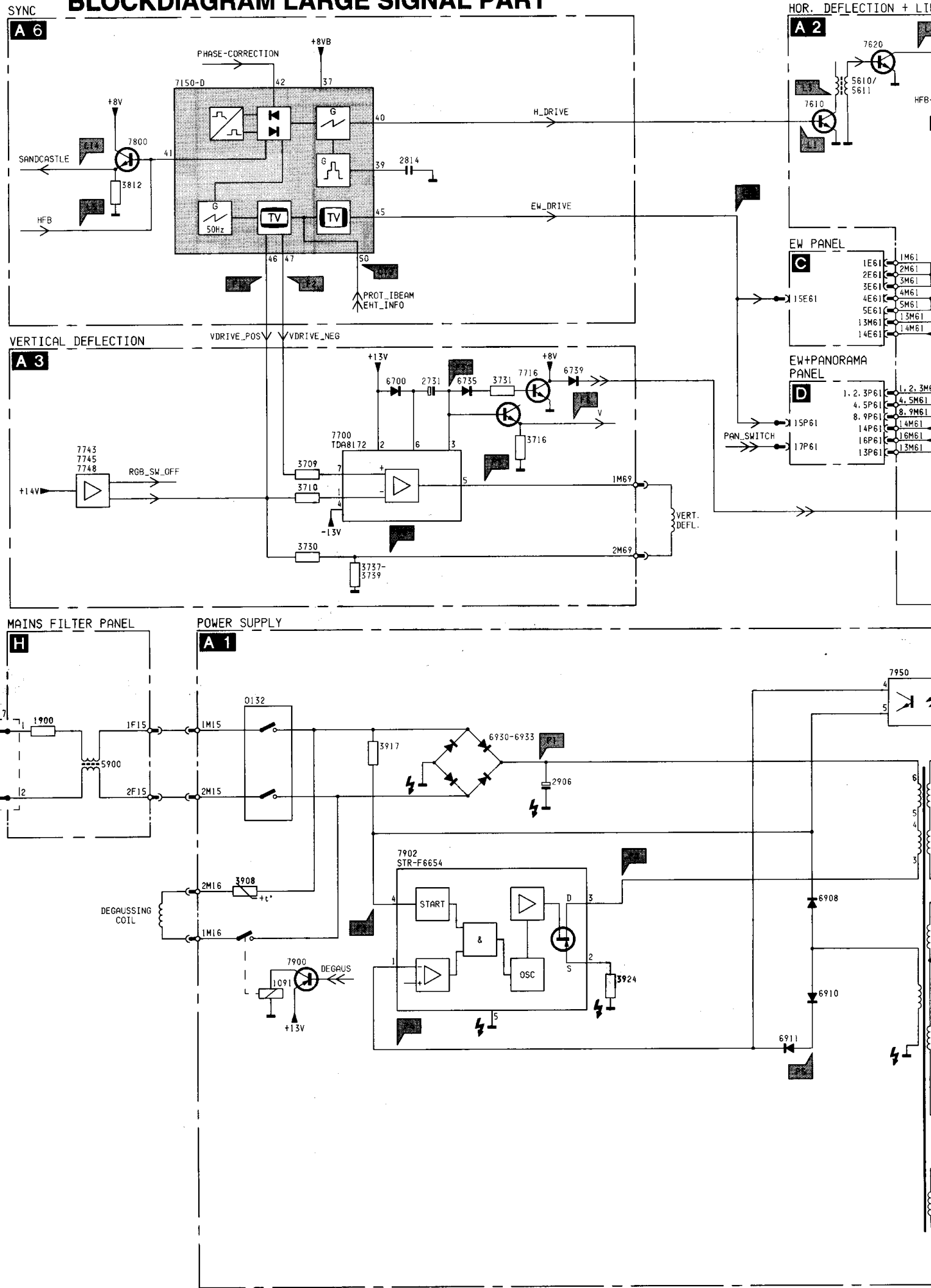


# BLOCKDIAGRAM LARGE SIGNAL PART



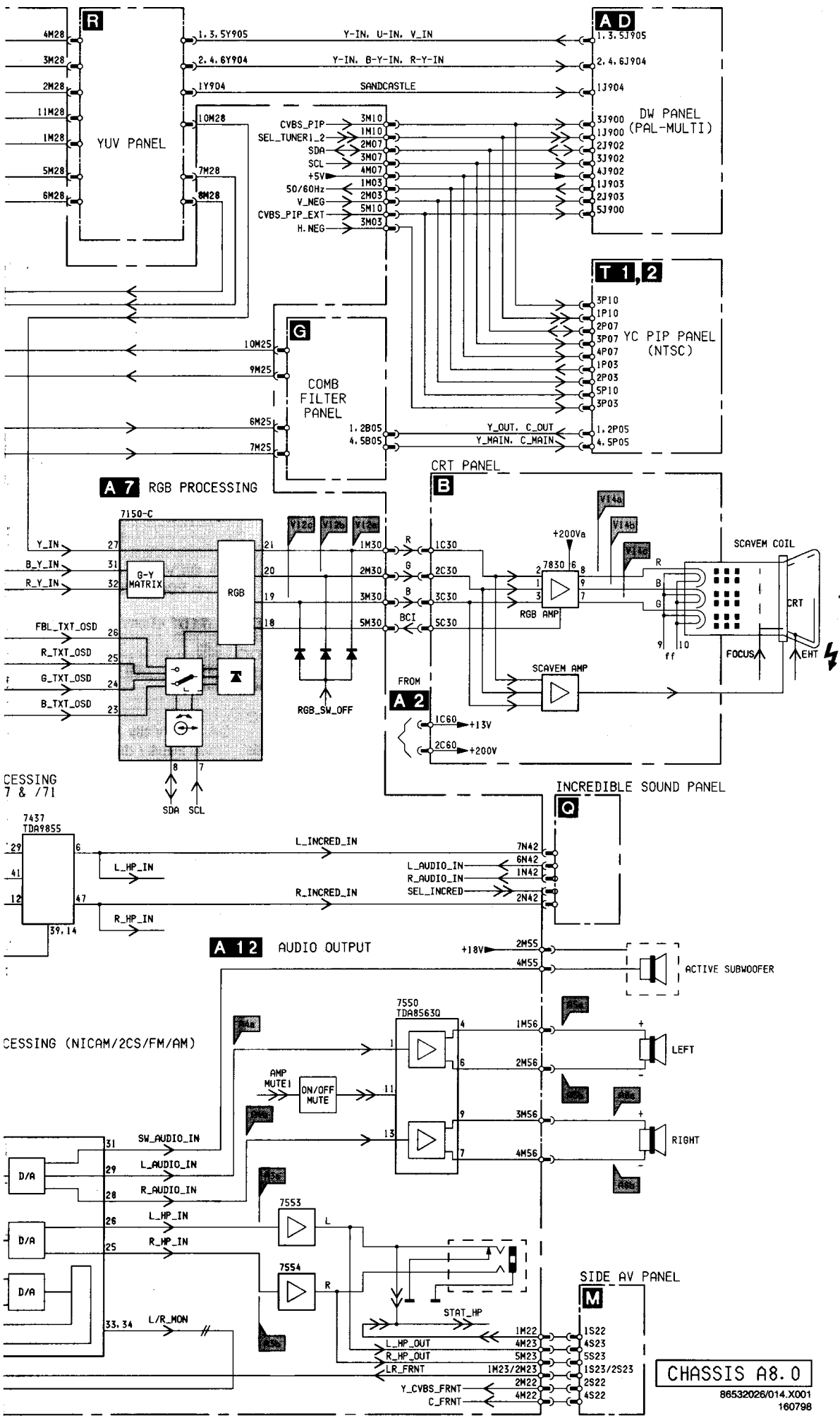


**BLOCKDIAGRAM LARGE SIGNAL PART**



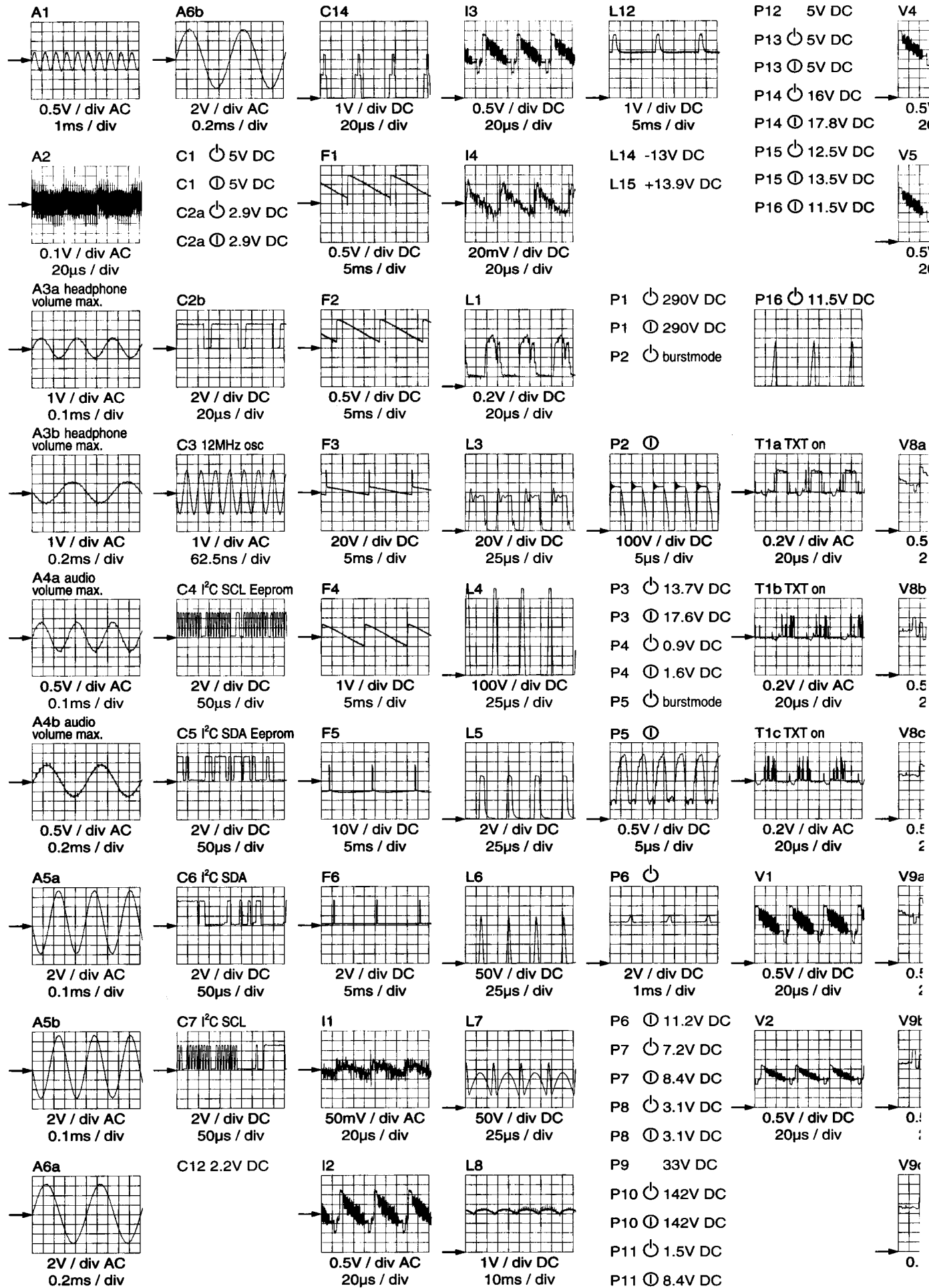


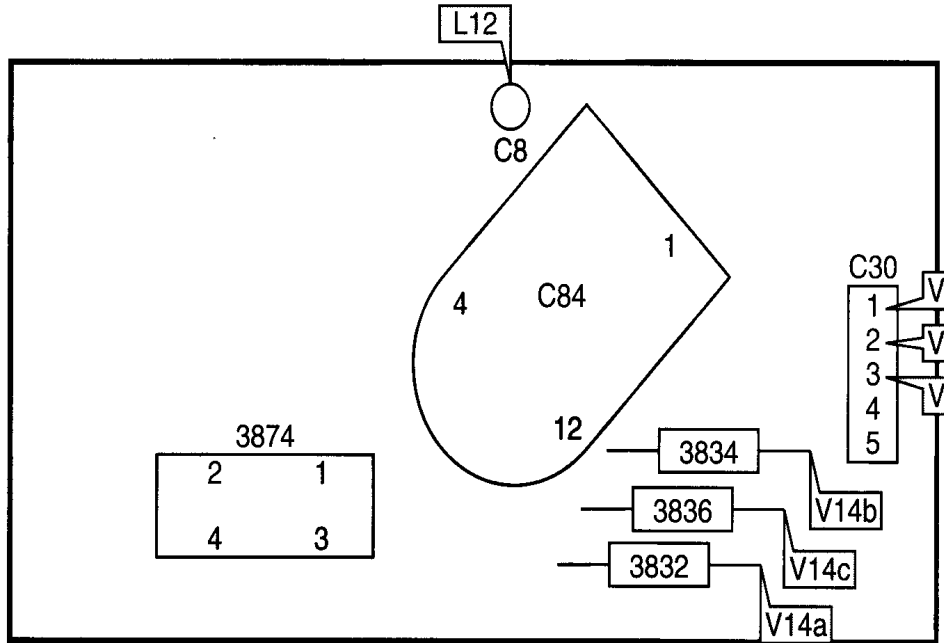
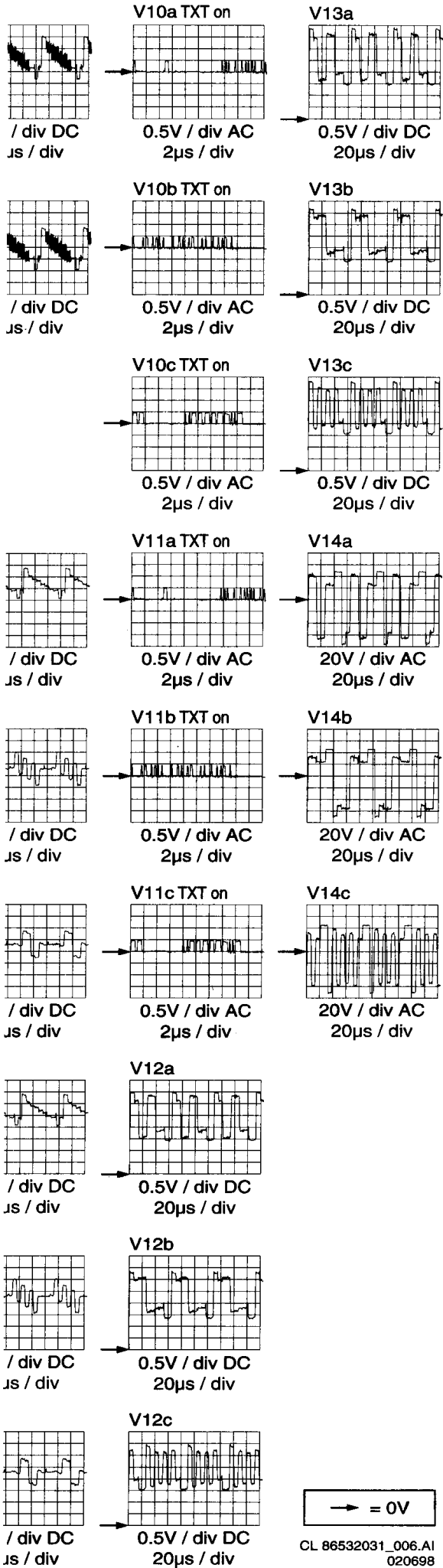




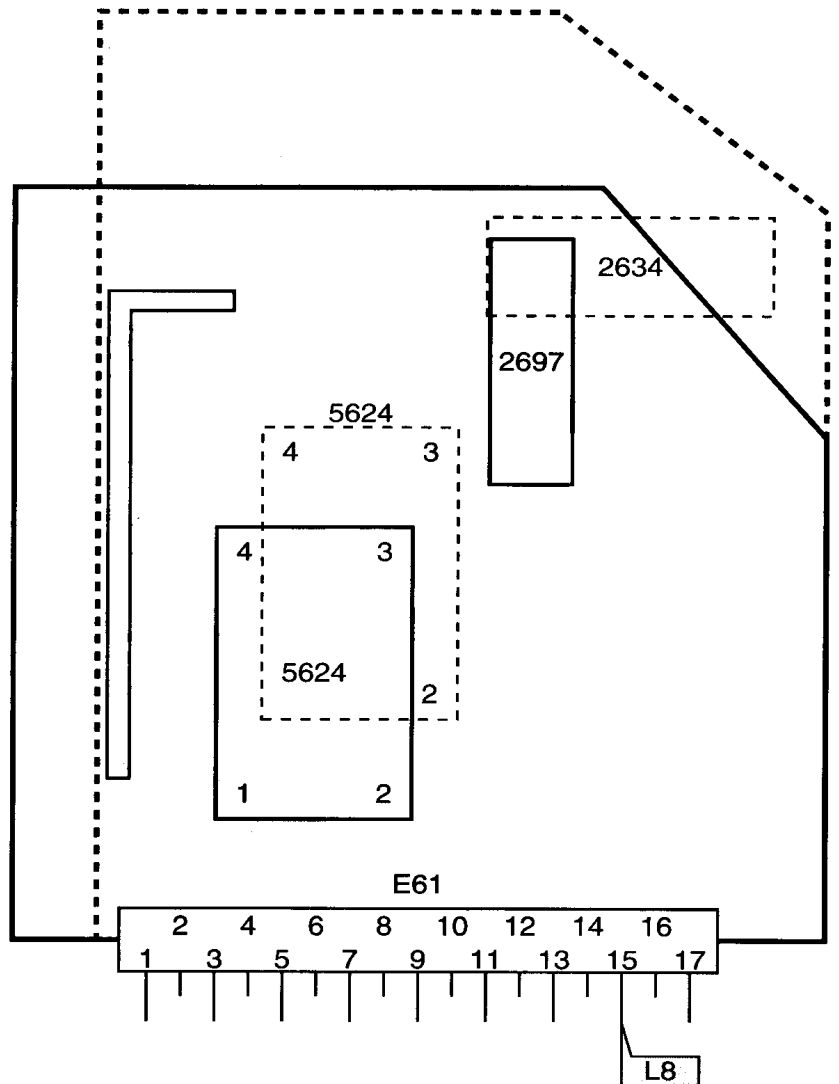
**CHASSIS A8.0**  
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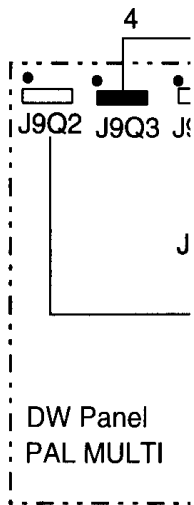
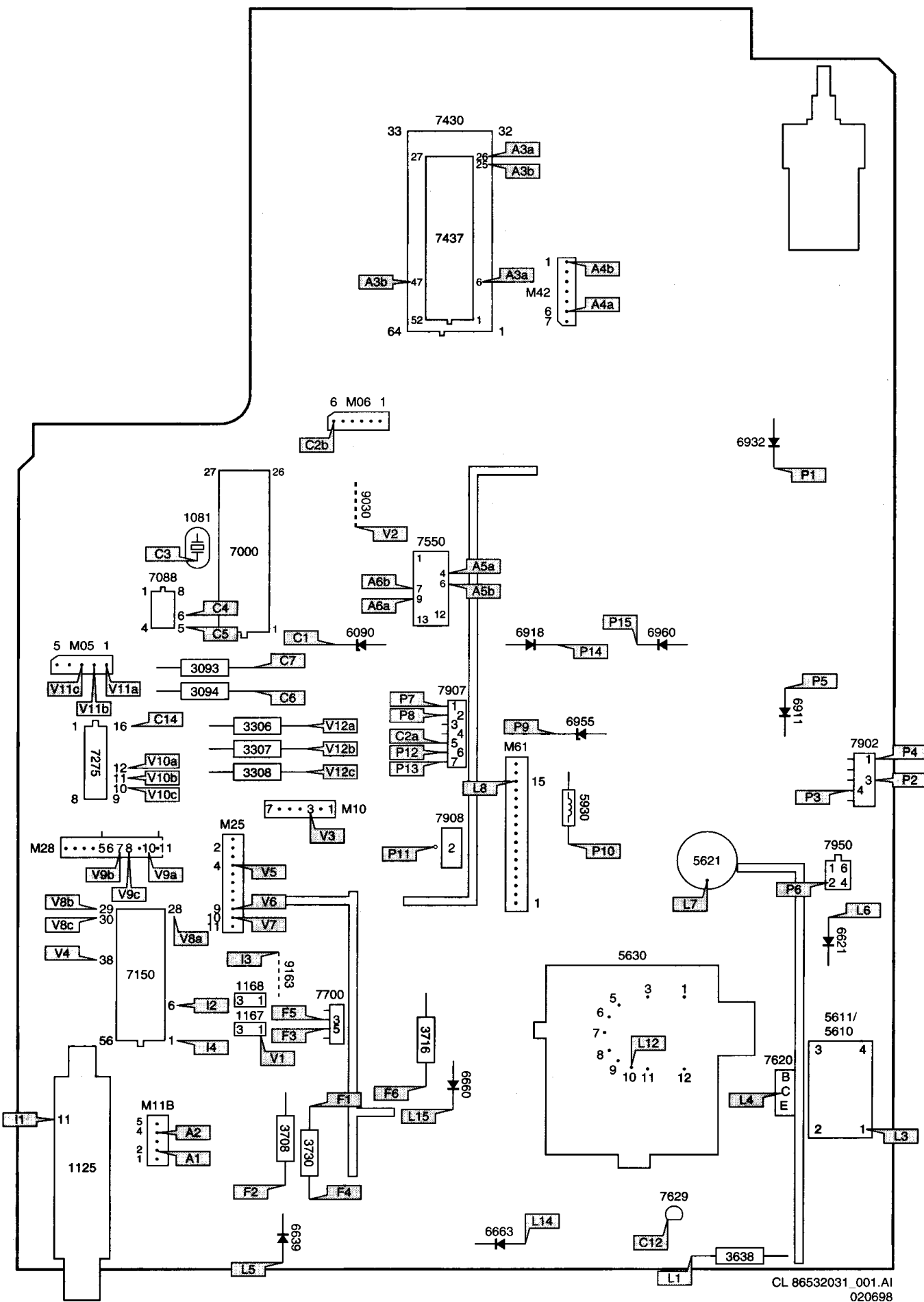
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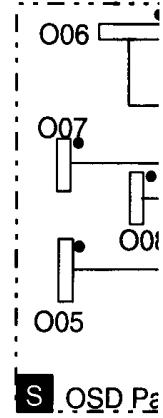
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→ = 0V  
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020698

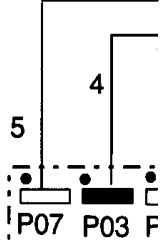




DW Panel  
PAL MULTI



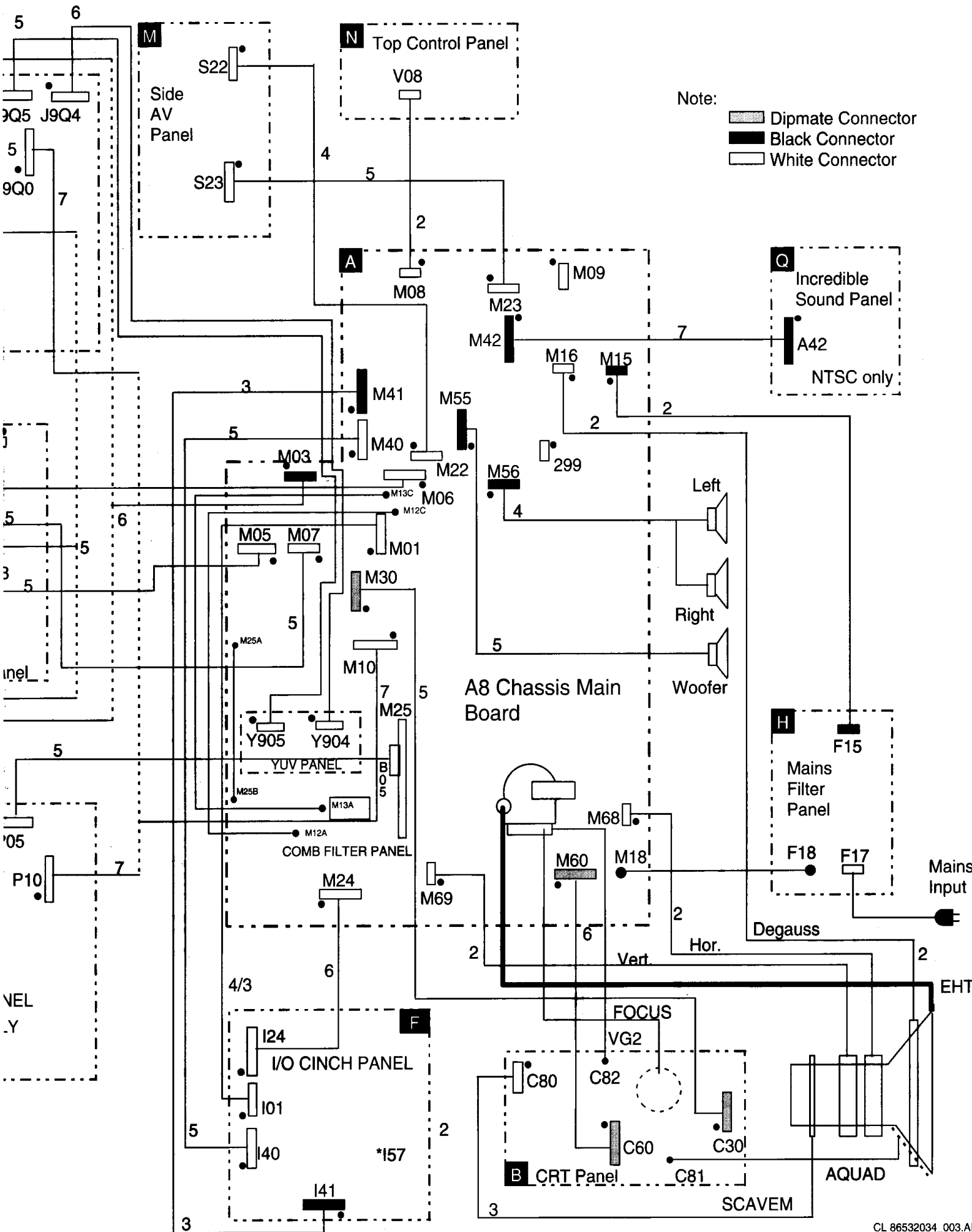
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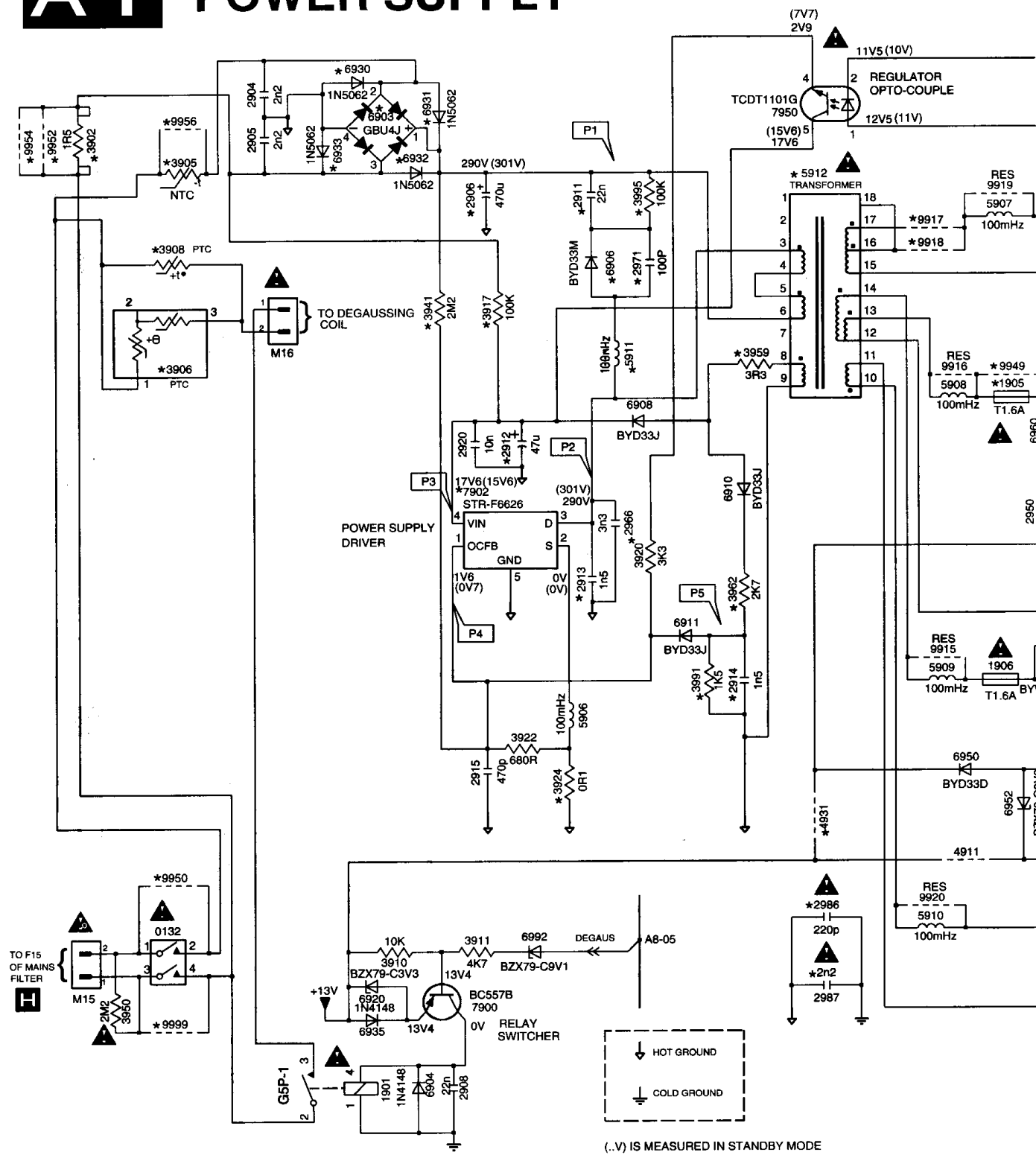
YC PIP PAI  
NTSC ONLI

T

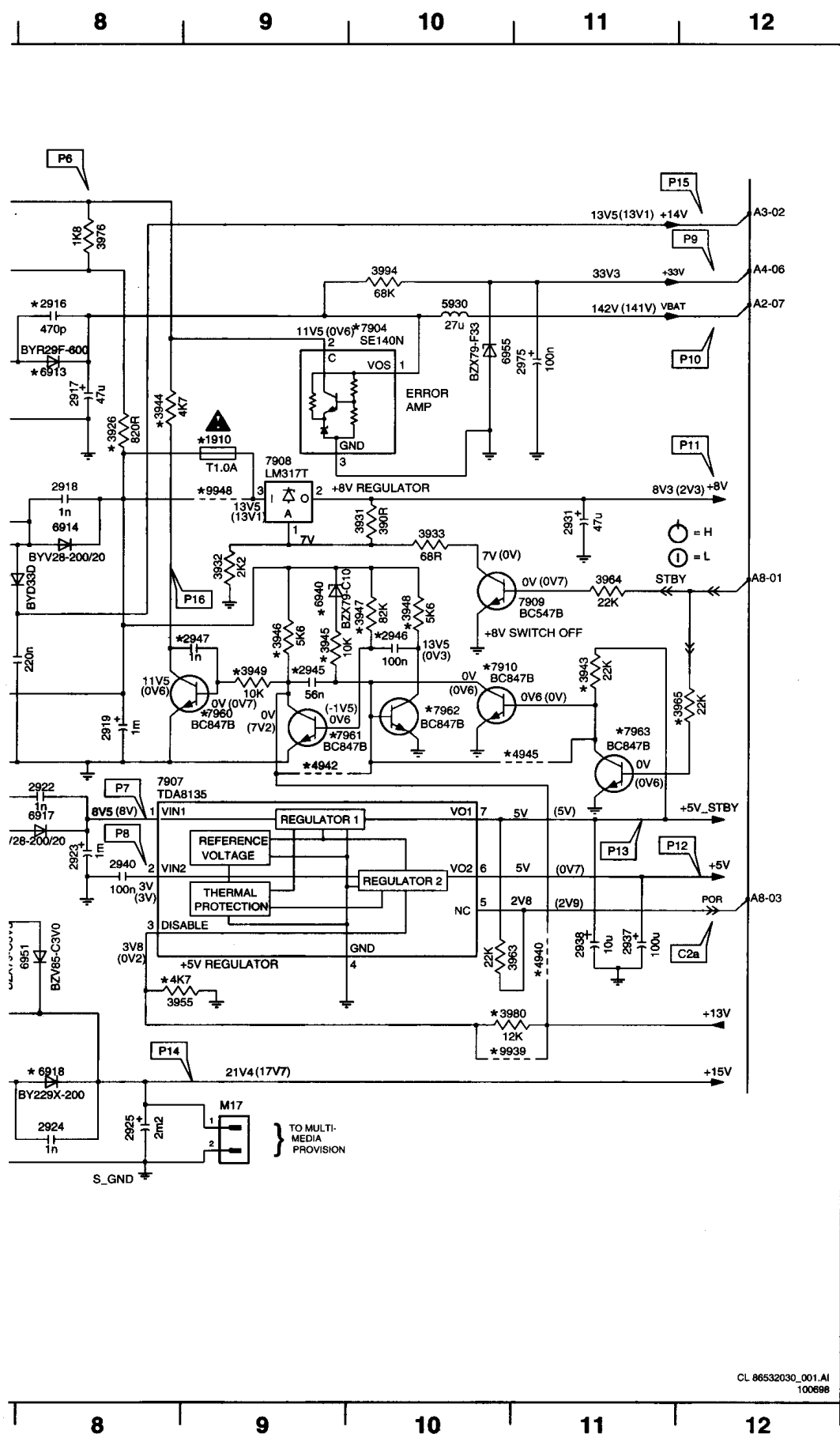
# A8 AP WIRE TREE DIAGRAM



# A 1 POWER SUPPLY



(.V) IS MEASURED IN STANDBY MODE



- |          |          |
|----------|----------|
| M15 G2   | 6935 G3  |
| M16 C3   | 6940 D9  |
| M17 G9   | 6950 F7  |
| 0132 G2  | 6951 F8  |
| 1901 H3  | 6952 F7  |
| 1905 C7  | 6955 B10 |
| 1906 E7  | 6960 D7  |
| 1910 C9  | 6992 G4  |
| 2904 A3  | 7900 G4  |
| 2905 B3  | 7902 D4  |
| 2906 B4  | 7904 B10 |
| 2908 H4  | 7907 E8  |
| 2911 B5  | 7908 C9  |
| 2912 D4  | 7909 D11 |
| 2913 E5  | 7910 D11 |
| 2914 E6  | 7950 B6  |
| 2915 F4  | 7960 D9  |
| 2916 B8  | 7961 E10 |
| 2917 B8  | 7962 D10 |
| 2918 C8  | 7963 E11 |
| 2919 E8  | 7915 E7  |
| 2920 D4  | 7916 C7  |
| 2922 E8  | 7917 B7  |
| 2923 E8  | 7918 B7  |
| 2924 G8  | 7919 B7  |
| 2925 G8  | 7920 G7  |
| 2931 C11 | 7939 G11 |
| 2937 F11 | 7948 C9  |
| 2938 F11 | 7949 C7  |
| 2940 E8  | 7950 F2  |
| 2945 D9  | 7952 B1  |
| 2946 D10 | 7954 B1  |
| 2947 D9  | 7956 B2  |
| 2950 D7  | 9999 G2  |
| 2966 D5  |          |
| 2971 C5  |          |
| 2975 B11 |          |
| 2986 G6  |          |
| 2987 G6  |          |
| 3902 B2  |          |
| 3905 B2  |          |
| 3906 C2  |          |
| 3908 B2  |          |
| 3910 G3  |          |
| 3911 G4  |          |
| 3917 C4  |          |
| 3920 D5  |          |
| 3922 F4  |          |
| 3924 F5  |          |
| 3926 C8  |          |
| 3931 C10 |          |
| 3932 D9  |          |
| 3933 C10 |          |
| 3941 C4  |          |
| 3943 D11 |          |
| 3944 C8  |          |
| 3945 D9  |          |
| 3946 D9  |          |
| 3947 D10 |          |
| 3948 D10 |          |
| 3949 D9  |          |
| 3950 G2  |          |
| 3955 F8  |          |
| 3959 C6  |          |
| 3962 E6  |          |
| 3963 F10 |          |
| 3964 D11 |          |
| 3965 D12 |          |
| 3976 A8  |          |
| 3980 F11 |          |
| 3991 E5  |          |
| 3994 B10 |          |
| 3995 B5  |          |
| 4911 F7  |          |
| 4931 F6  |          |
| 4940 F11 |          |
| 4942 E9  |          |
| 4945 E11 |          |
| 5906 E5  |          |
| 5907 B7  |          |
| 5908 C7  |          |
| 5909 E7  |          |
| 5910 G7  |          |
| 5911 C5  |          |
| 5912 B6  |          |
| 5930 B10 |          |
| 6903 B3  |          |
| 6904 H4  |          |
| 6906 C5  |          |
| 6908 C5  |          |
| 6910 D6  |          |
| 6911 E5  |          |
| 6913 B8  |          |
| 6914 C8  |          |
| 6917 E8  |          |
| 6918 G8  |          |
| 6920 G3  |          |
| 6930 A3  |          |
| 6931 B4  |          |
| 6932 B4  |          |
| 6933 B3  |          |

- C2a 2.9V DC
- C2a 2.9V DC
- P1 290V DC
- P1 290V DC
- P2 burstmode
- P2
- 
- 100V / div DC
- 5µs / div
- P3 13.7V DC
- P3 17.6V DC
- P4 0.9V DC
- P4 1.6V DC
- P5 burstmode
- P5
- 
- 0.5V / div DC
- 5µs / div
- P6
- 
- 2V / div DC
- 1ms / div
- P6 11.2V DC
- P7 7.2V DC
- P7 8.4V DC
- P8 3.1V DC
- P8 3.1V DC
- P9 33V DC
- P10 142V DC
- P10 142V DC
- P11 1.5V DC
- P11 8.4V DC
- P12 5V DC
- P13 5V DC
- P13 5V DC
- P14 16V DC
- P14 17.8V DC
- P15 12.5V DC
- P15 13.5V DC

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FIG. 1

ITEM NO.	EURO 25, 28, 29, 28WS	USA	A/P S.R.	BR 29SF	EURO 21, 24WS	BR 32V	USA 27V, 32V AMV	BR 27V	A
1905	----	T1.6A	----	T1.6A	----	T1.6A	T1.6A	T1.6A	T1
1906	T1.6A	T1.6A	T1.6A	T2.5A	T1.6A	T2.5A	T1.6A	T2.5A	T2
1910	----	----	----	T1.0A	----	T1.0A	T1.0A	T1.0A	T1
2906	220U/400V	470U/250V	220U/400V	470U/400V	220U/400V	680U/400V	470U/400V	470U/400V	47
2911	----	----	----	----	----	----	22N/400V	----	22
2912	33U/25V	47U/25V	33U/25V	47U/25V	33U/25V	47U/25V	47U/25V	47U/25V	47
2913	1N5/2KV	----	1N5/2KV	1N5/2KV	1N5/2KV	1N5/2KV	1N5/2KV	1N5/2KV	1N
2914	1N5/50V	1N/50V	1N5/50V	1N/50V	1N5/50V	1N/50V	1N/50V	1N/50V	1N
2916	470P/2KV	470P/2KV	470P/2KV	1N/2KV	470P/2KV	1N/2KV	470P/2KV	1N/2KV	47
2937	10U/50V	10U/50V	100U/10V	100U/10V	10U/50V	100U/10V	100U/10V	100U/10V	10
2945 (SMD)	56N/50V	----	----	----	56N/50V	----	----	----	----
2946 (SMD)	100N/16V	----	----	----	100N/16V	----	----	----	----
2947 (SMD)	2N2/50V	----	----	----	2N2/50V	----	----	----	----
2966	----	3N3/2KV	----	----	2N2/50V	----	----	----	----
2971	----	----	----	----	2N2/50V	----	100P/1KV	----	10
2986	----	----	220P/250V	220P/250V	----	220P/250V	----	220P/250V	22
2987	1N5/250V	1N5/250V	1N5/250V	1N5/250V	1N5/250V	1N5/250V	1N5/250V	1N5/250V	1N
3902	1R5/7W	----	1R5/7W	----	1R5/7W	----	----	----	----
3905	----	----	----	2R5/NTC	----	2R5/NTC	----	2R5/NTC	2R
3906	9R/220V	----	9R/220V	9R/220V	9R/220V	9R/220V	9R/220V	9R/220V	9R
	PTC MONO	----	PTC MONO	PTC MONO	PTC MONO	PTC MONO	PTC MONO	PTC MONO	P
3908	----	10R/120V	----	----	----	----	----	----	----
	----	PTC	----	----	----	----	----	----	----
3917	150K/3W	100K/3W	150K/3W	100K/3W	150K/3W	100K/3W	100K/3W	100K/3W	10
3924	0.15R/3W	0.1R/3W	0.15R/3W	0.1R/3W	0.15R/3W	0.1R/3W	0.1R/3W	0.1R/3W	0.
3926 (SMD)	820R	1K	1K	1K	820R	1K	1K	1K	1K
3941	----	----	----	3M3/VR25	----	3M3/VR25	3M3/VR25	3M3/VR25	3M
3943 (SMD)	22K	22K	----	----	22K	----	----	----	----
3944 (SMD)	4K7	----	----	----	4K7	----	----	----	----
3945 (SMD)	10K	----	----	----	10K	----	----	----	----
3946	5K6	----	----	----	5K6	----	----	----	----
3947	82K	----	----	----	8K2	----	----	----	----
3948	5K6	----	----	----	5K6	----	----	----	----
3949	10K	----	----	----	10K	----	----	----	----
3955	4K7	----	4K7	4K7	4K7	4K7	4K7	4K7	4K
3959	3R3	33R	3R3	3R3	3R3	3R3	3R3	3R3	3R
3962	2K7	1K8	2K7	1K8	2K7	1K8	1K8	1K8	1K
3965 (SMD)	22K	22K	----	----	22K	----	----	----	----
3980	12K	----	12K	12K	12K	20K	20K	20K	12
3991	----	----	----	1K5	----	1K5	1K5	1K5	1K
3995	----	----	----	----	----	100K/3W	----	----	10
4931 (SMD)	----	JUMPER	----	----	JUMPER	JUMPER	JUMPER	----	----
4940 (SMD)	----	JUMPER	----	----	----	----	----	----	----
4942 (SMD)	----	JUMPER	----	----	----	----	----	----	----
4945 (SMD)	----	JUMPER	----	----	----	----	----	----	----
5911	----	JUMPER	----	----	----	----	BEAD/100MHZ	----	BE
5912	DT441	DT496	DT441	DT464	DT441	DT464	DT464	DT464	D
6903	----	GBU4J	----	GBU4J	----	GBU4J	GBU4J	GBU4J	GB
6906	----	----	----	----	----	----	BYD33M	----	BY
6913	BYV29F-500	BYV29F-400	BYV29F-600	BYV29F-500	BYV29F-600	BYV29F-500	BYV29F-600	BYV29F-500	BY
6918	BYW29F-100	BY229X-200	BYW29F-100	BYW29F-100	BYW29F-100	BYW29F-100	BY229X-200	BYW29F-100	BY
6930	1N5062	----	1N5062	----	1N5062	----	----	----	----
6931	1N5062	----	1N5062	----	1N5062	----	----	----	----
6932	1N5062	----	1N5062	----	1N5062	----	----	----	----
6933	1N5062	----	1N5062	----	1N5062	----	----	----	----
6940	BZX79-C10	----	----	----	BZX79-C10	----	----	----	----
7902	STR-F6654	STR-F6626	STR-F6654	STR-F6656	STR-F6654	STR-F6656	STR-F6656	STR-F6656	S
7904	SE-140N	SE-130N	SE-140N	SE-140N	SE-140N	SE-130N	SE-130N	SE-130N	S
7910	BC847B	----	----	----	BC847B	----	----	----	----
7960	BC847B	----	----	----	BC847B	----	----	----	----
7961	BC847B	----	----	----	BC847B	----	----	----	----
7962	BC847B	----	----	----	BC847B	----	----	----	----
7963	BC847B	BC847B	----	----	BC847B	----	----	----	----

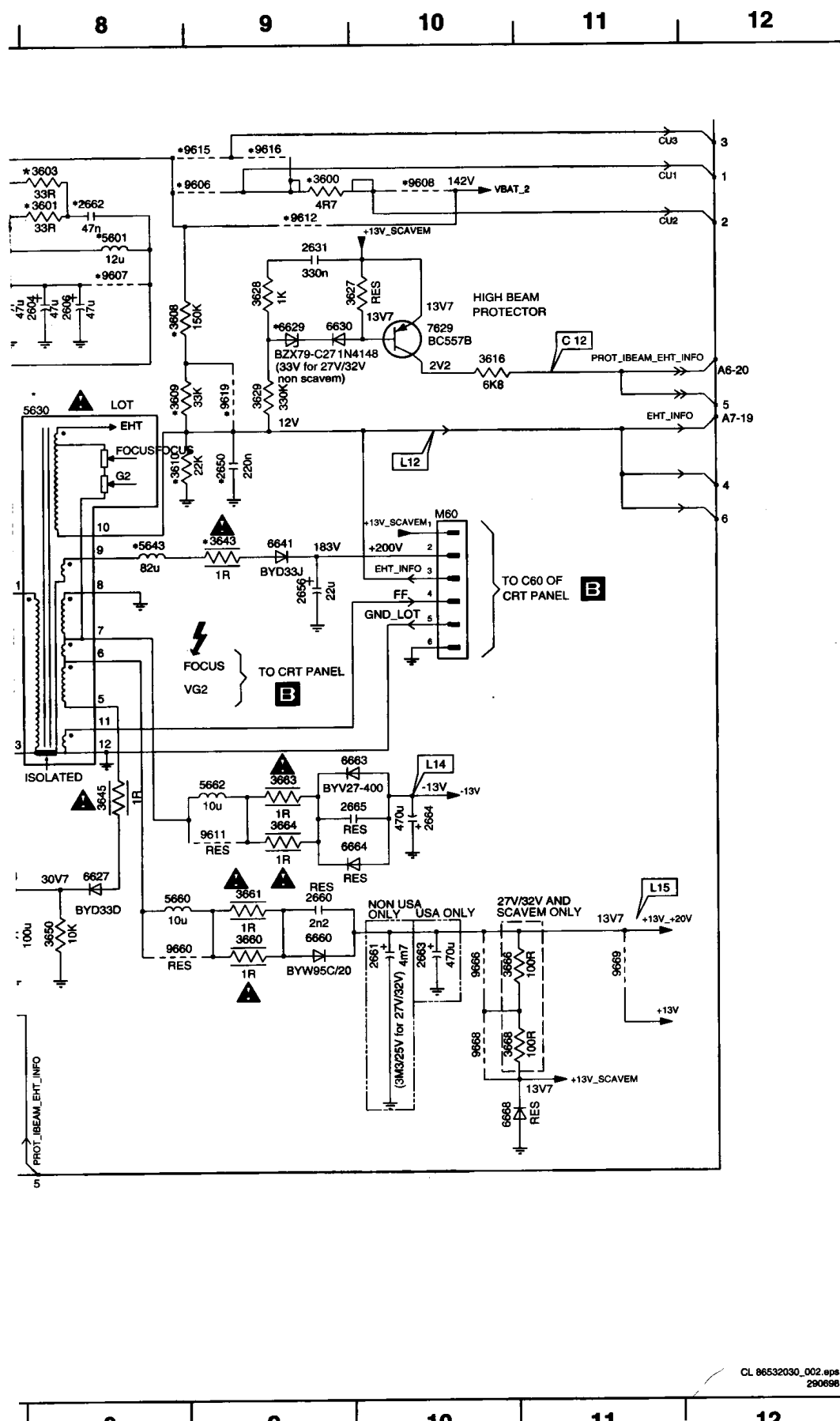
TO BE CONTINUED ON FIG. 2

FIG. 2

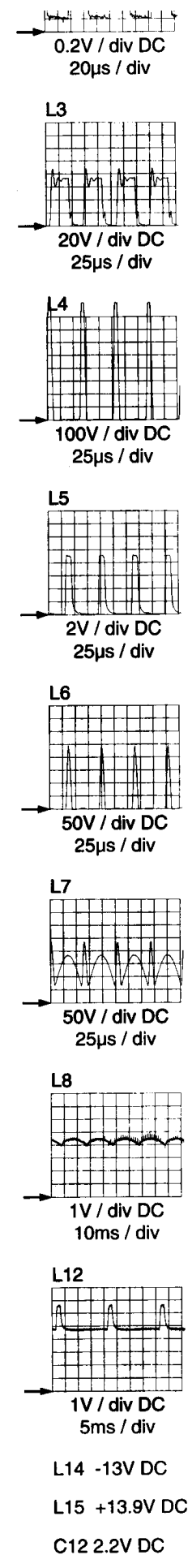
ITEM NO.	EURO 25, 28, 29, 28WS	USA	A/P S.R.	BR 29SF	EURO 21, 24WS	BR 32V	USA 27V, 32V AMV	BR 27V	A
9917	JUMPER	----	JUMPER	JUMPER	JUMPER	----	----	----	JU
9918	----	JUMPER	----	----	----	JUMPER	JUMPER	----	JU
9939	----	JUMPER	----	----	----	----	----	----	----
9948	JUMPER	JUMPER	JUMPER	----	JUMPER	----	----	----	----
9949	JUMPER	----	----	----	JUMPER	----	----	----	----
9950	----	JUMPER	----	----	----	----	JUMPER	----	----
9952	----	JUMPER	----	----	JUMPER	JUMPER	JUMPER	JUMPER	JU
9954	----	JUMPER	----	----	JUMPER	JUMPER	JUMPER	JUMPER	JU
9956	JUMPER	JUMPER	JUMPER	JUMPER	----	----	JUMPER	----	----
9999	----	JUMPER	----	----	----	----	JUMPER	----	----







- M50 C10
- M61 D3
- M68 B7
- 2600 B7
- 2601 C3
- 2602 C3
- 2603 B5
- 2604 B8
- 2605 C4
- 2606 B8
- 2611 B3
- 2612 B2
- 2613 B6
- 2618 B6
- 2619 B7
- 2621 C7
- 2624 D7
- 2625 B6
- 2627 F7
- 2629 D6
- 2630 D6
- 2631 B9
- 2633 B4
- 2634 B5
- 2635 E7
- 2636 E7
- 2646 G7
- 2647 F7
- 2650 C9
- 2656 D9
- 2660 F9
- 2661 F10
- 2662 A8
- 2663 F10
- 2664 E10
- 2665 E9
- 2670 G5
- 2673 H4
- 3600 A9
- 3601 A8
- 3602 C3
- 3603 A8
- 3608 B8
- 3609 B8
- 3610 C8
- 3612 B3
- 3613 B3
- 3616 B10
- 3617 B4
- 3618 C2
- 3627 B10
- 3628 B9
- 3629 B9
- 3630 C7
- 3631 B5
- 3632 C5
- 3635 D6
- 3636 D6
- 3637 D7
- 3638 C2
- 3639 D7
- 3643 C9
- 3645 E8
- 3647 F6
- 3650 F8
- 3660 F9
- 3661 F9
- 3663 E9
- 3664 E9
- 3665 C5
- 3666 F10
- 3668 G10
- 3670 H5
- 3671 H4
- 3672 H4
- 3673 H4
- 3803 G7
- 4647 F7
- 5601 A8
- 5610 B3
- 5611 B3
- 5620 A5
- 5621 C7
- 5622 B4
- 5630 C8
- 5643 C8
- 5660 F8
- 5662 E9
- 6621 B6
- 6625 D7
- 6626 D7
- 6627 E8
- 6628 E7
- 6629 B9
- 6630 B9
- 6631 F7
- 6635 E6
- 6638 F7
- 6639 C4
- 6641 C9
- 6646 G7
- 6660 F9
- 6663 E10
- 6664 E10
- 6668 G10
- 6670 H5
- 7610 C3
- 7620 B4
- 7629 B10
- 9605 D6
- 9606 A9
- 9607 B8
- 9608 A10
- 9609 E8
- 9610 D7
- 9611 E9
- 9612 A9
- 9613 D5
- 9614 D6
- 9615 A9
- 9616 A9
- 9619 B9
- 9638 F7
- 9646 G7
- 9660 F8
- 9665 B5
- 9666 F10
- 9668 G10
- 9669 F11

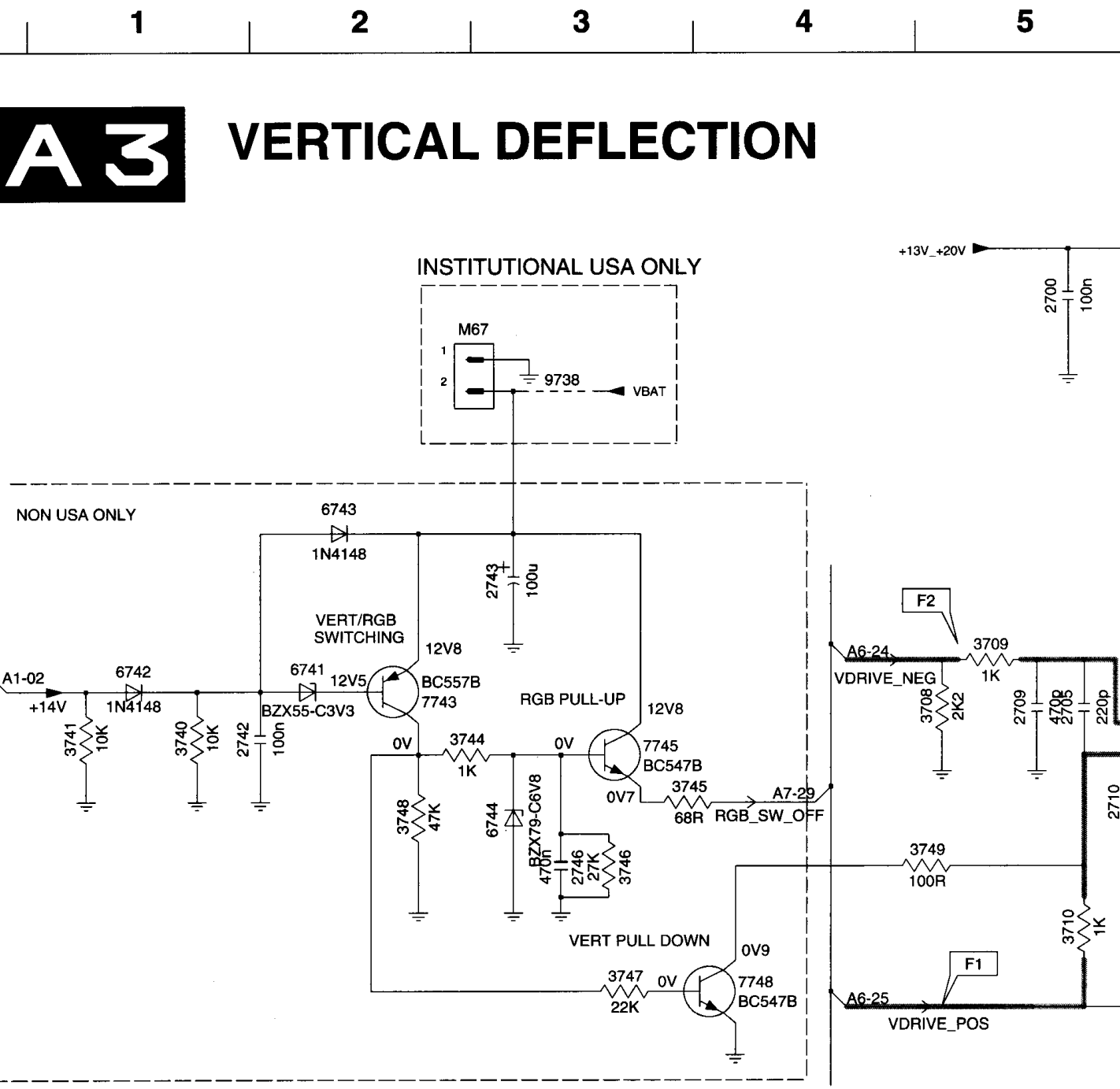


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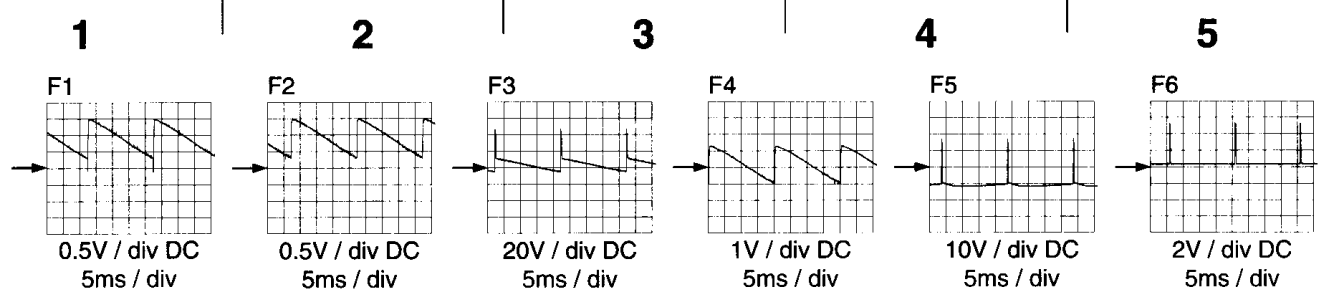


# A3

## VERTICAL DEFLECTION



* ITEM NO	29SF	27V	25/28 BLD	32V	35V	24 WIDE	28 WIDE	21
3737	2R7	3R3	3R3	3R3	3R3	4R7	4R7	3R3
3738	2R7	3R3	2R7	4R7	3R3	4R7	4R7	3R3
3739	2R2	3R3	2R7	2R2	2R2	3R3	4R7	---



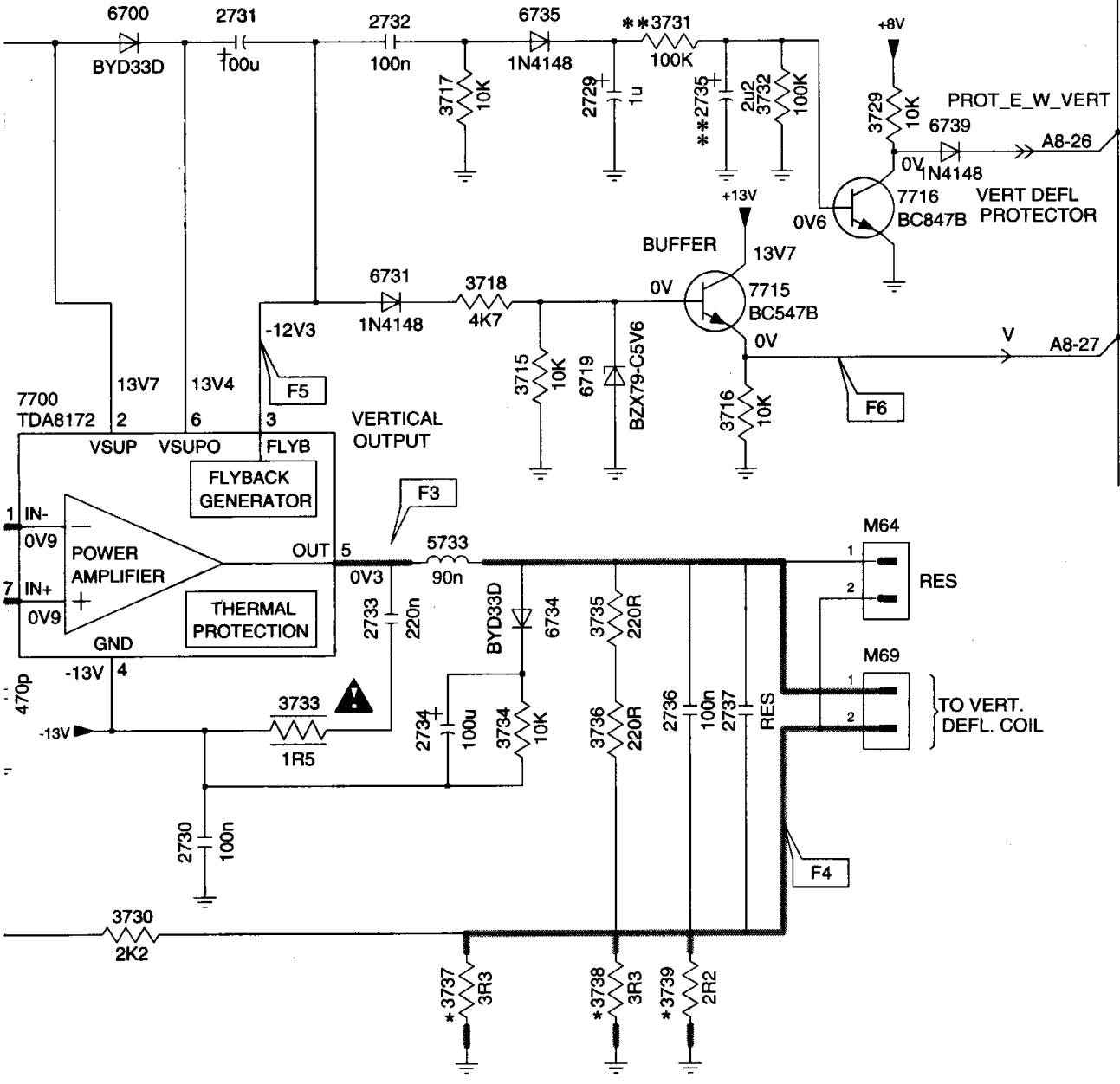
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**	27V/32V	OTHERS
3731	270K	100K
2735	2U2	----



A

B

C

D

E

- M64 C9
- M67 A2
- M69 C9
- 2700 A5
- 2705 C5
- 2709 C5
- 2710 C5
- 2729 A8
- 2730 D6
- 2731 A6
- 2732 A7
- 2733 C7
- 2734 D7
- 2735 A8
- 2736 D8
- 2737 D8
- 2742 C1
- 2743 B3
- 2746 D3
- 3708 C5
- 3709 C5
- 3710 D5
- 3715 B7
- 3716 B8
- 3717 A7
- 3718 B7
- 3729 A9
- 3730 D6
- 3731 A8
- 3732 A8
- 3733 D7
- 3734 D7
- 3735 C8
- 3736 D8
- 3737 E7
- 3738 E8
- 3739 E8
- 3740 C1
- 3741 C1
- 3744 C2
- 3745 C3
- 3746 D3
- 3747 D3
- 3748 D2
- 3749 D5
- 5733 C7
- 6700 A6
- 6719 B8
- 6731 B7
- 6734 C8
- 6735 A8
- 6739 A9
- 6741 C2
- 6742 C1
- 6743 B2
- 6744 D3
- 7700 B6
- 7715 B8
- 7716 B9
- 7743 C2
- 7745 C3
- 7748 D4
- 9738 B3

6

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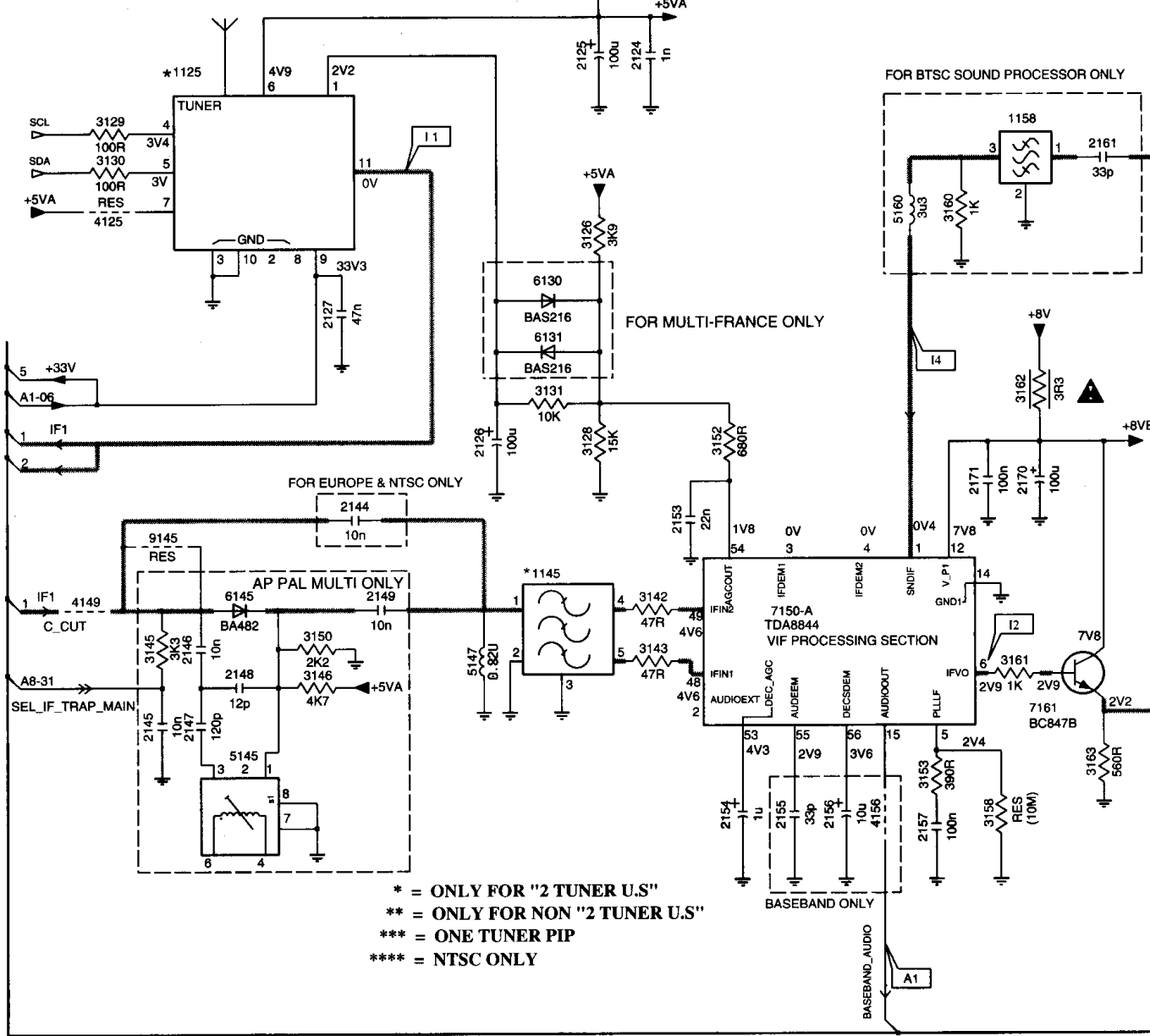
8

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**A 4**

**TUNER + VIF**

**IC 7150 (BIMOS)  
TV SIGNAL PROCESS**

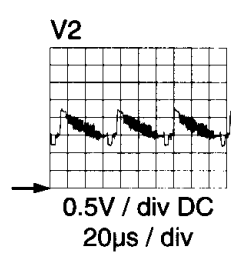
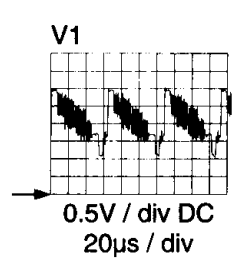
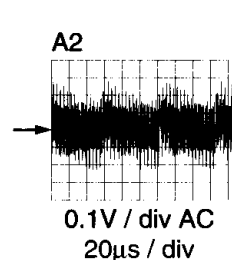
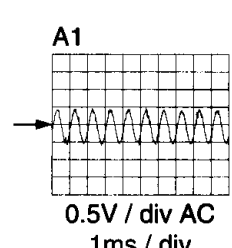
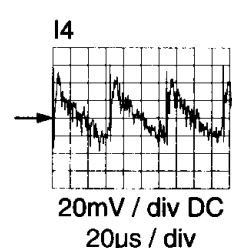
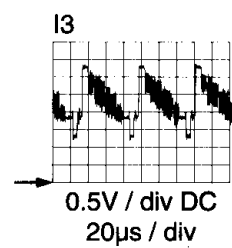
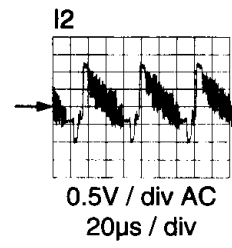
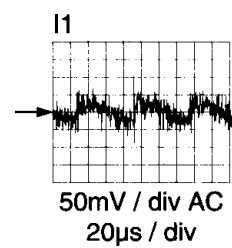
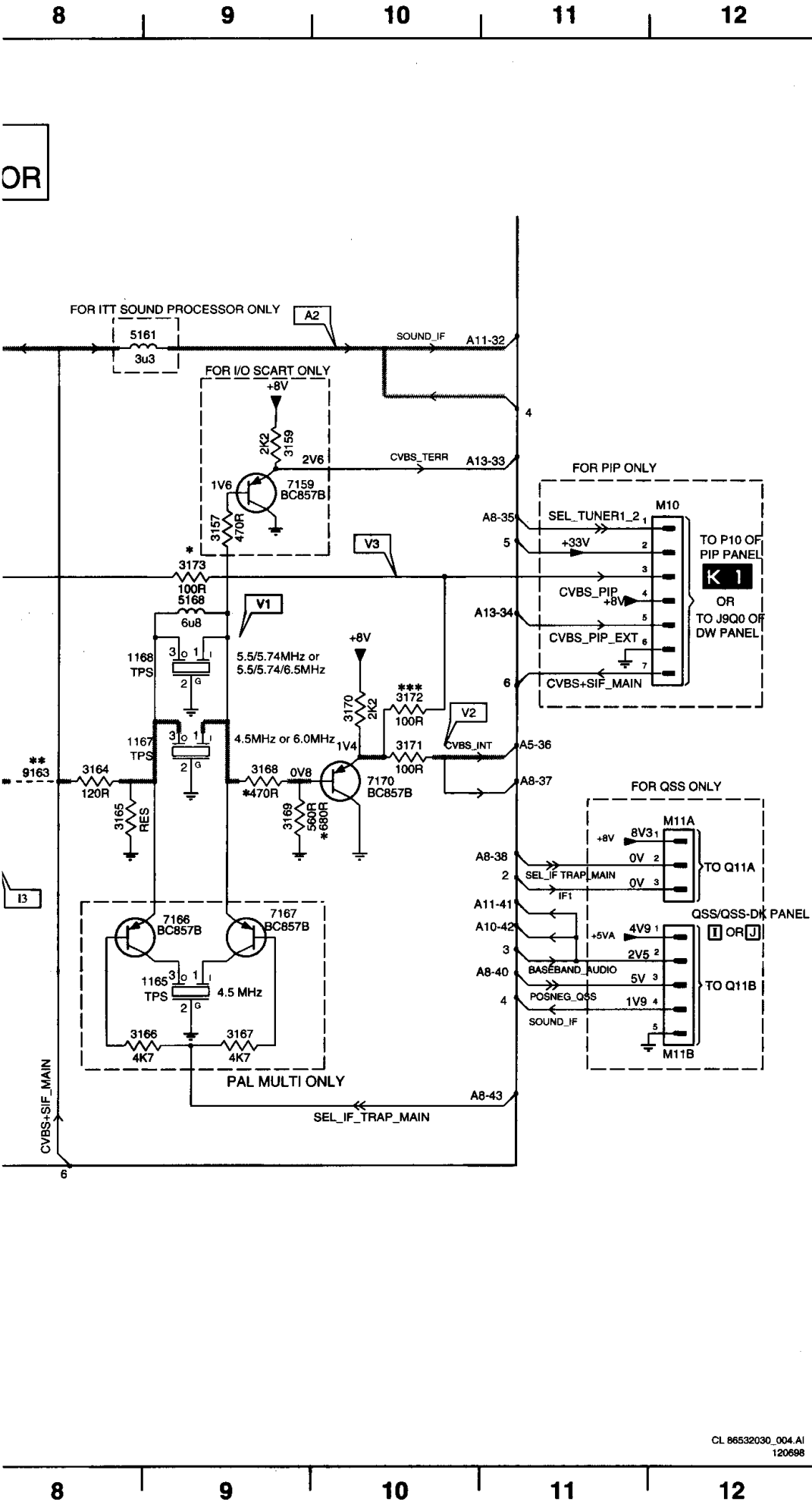


\* = ONLY FOR "2 TUNER U.S"  
 \*\* = ONLY FOR NON "2 TUNER U.S"  
 \*\*\* = ONE TUNER PIP  
 \*\*\*\* = NTSC ONLY

*1125 - TUNER	NON-PIP	PIP
EUROPE	PLL IEC TELE9	----
US	PLL F TELH9	PLL F TELH9
LATAM	----	PLL PHONO TELH9
AP	PLL IEC TELE9	PLL PHONO TELE9
AP - CHINA	PLL IEC 38MHZ	PLL PHONO 38MHZ

* 1145	SYSTEM	REGION
OFWG1984M	NICAM BG	EUROPE/AP
OFWJ1980M	PAL I	EUROPE
OFWK2960M	PAL MULTI/2CS BG	EUROPE/AP
OFWM1967M	NTSC-M	AP/LATAM
OFWM1962M	NTSC-M	NA
OFWK3955M	CHINA-MULTI	AP
OFWK3953M	MULTI-FRANCE	E. EUROPE

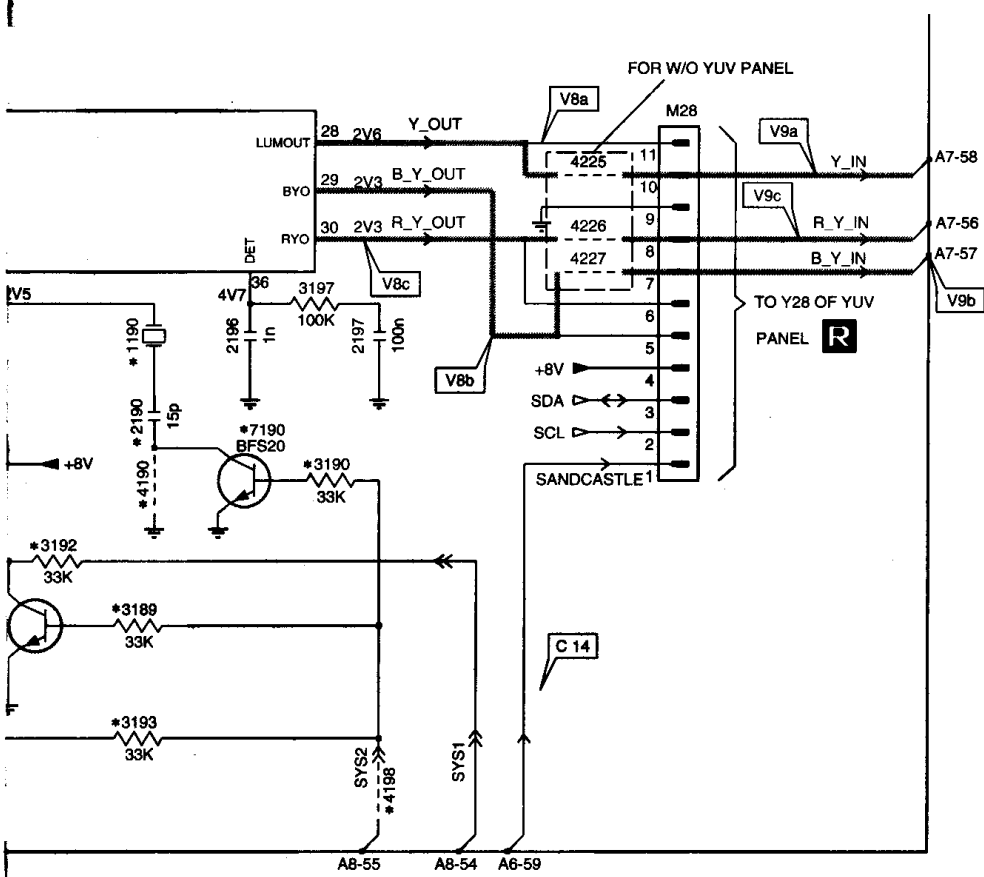
OR



- M10 C12
- 1125 B2
- 1145 D4
- 1158 B7
- 1165 F9
- 1167 D9
- 1168 D9
- 2124 B5
- 2125 B4
- 2126 D4
- 2127 C3
- 2144 D3
- 2145 E2
- 2146 E2
- 2147 E2
- 2148 E3
- 2149 E4
- 2153 D5
- 2154 F5
- 2155 F6
- 2156 F6
- 2157 F6
- 2161 B7
- 2170 D7
- 2171 D7
- 3126 C5
- 3128 D5
- 3129 B2
- 3130 B2
- 3131 C4
- 3142 E5
- 3143 E5
- 3145 E2
- 3146 E3
- 3150 E3
- 3152 D5
- 3153 F6
- 3157 C9
- 3158 F7
- 3159 C9
- 3160 B7
- 3161 F7
- 3162 C7
- 3163 E7
- 3164 E8
- 3165 E8
- 3166 F9
- 3167 F9
- 3168 E9
- 3169 E9
- 3170 D10
- 3171 D10
- 3172 D10
- 3173 C9
- 4125 B2
- 4149 E2
- 4156 F6
- 5100 A4
- 5145 E3
- 5147 E4
- 5160 B6
- 5161 B8
- 5168 D9
- 6130 C4
- 6131 C4
- 6145 E3
- 7150-A E6
- 7159 C9
- 7161 E7
- 7166 E9
- 7167 E9
- 7170 E10
- 9145 D2
- 9163 E8
- M11A E12
- M11B F12

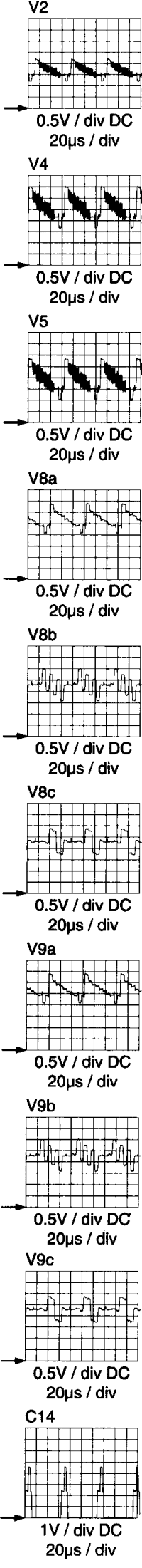


8 9 10 11 12



- M25 B5
- M28 D10
- 1189 E6
- 1190 E8
- 1191 E6
- 1192 E7
- 2176 D5
- 2177 D5
- 2180 D6
- 2181 D7
- 2186 E5
- 2187 E5
- 2188 E6
- 2189 E6
- 2190 E8
- 2191 E6
- 2192 E7
- 2196 E9
- 2197 E9
- 3175 C5
- 3176 D5
- 3189 F8
- 3190 E9
- 3191 F7
- 3192 F8
- 3193 G8
- 3194 E7
- 3197 E9
- 4190 F8
- 4192 E6
- 4195 E7
- 4198 G9
- 4201 B6
- 4225 D10
- 4226 D10
- 4227 E10
- 7150-B D5
- 7176 C5
- 7189 F8
- 7190 E9
- 7191 F6
- 7192 F7
- 7193 G7
- 9200 C6

A  
B  
C  
D  
E  
F  
G  
H

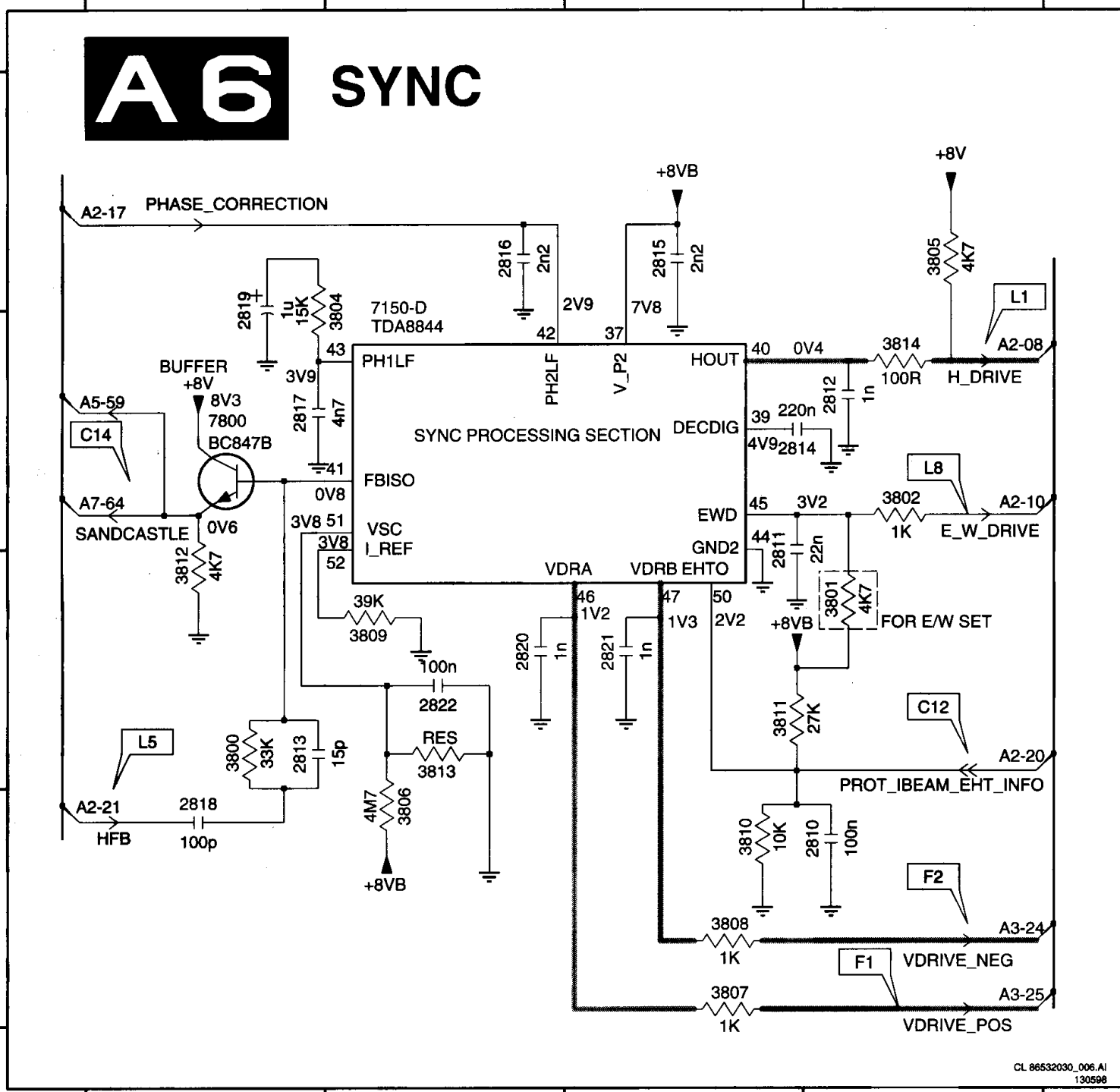


8 9 10 11 12

2	A7	2557	C3	3001	D4	3734	C8	6625	B6	7908	C6	9222	D6	9529	D2	9906	C5
3	C4	2571	C1	3002	D4	3735	C8	6626	B6	7950	A6	9242	D8	9530	D2	9907	C5
4	D7	2572	B1	3003	D4	3736	C8	6627	C6	9001	C5	9250	D7	9531	D1	9908	C5
115	B5	2600	B6	3020	D4	3737	C8	6628	C6	9002	B2	9251	D7	9532	D2	9910	C4
116	C4	2601	A8	3041	D4	3738	C8	6629	A8	9003	B1	9252	D7	9533	D2	9911	B4
132	A2	2603	A7	3042	D4	3739	C8	6630	A8	9004	B1	9253	D7	9534	C2	9912	B5
210	B2	2604	B6	3051	D4	3741	C7	6631	C6	9010	C3	9254	D7	9535	C4	9914	B5
211	A3	2605	A8	3052	D4	3745	D6	6635	C6	9011	C3	9255	D7	9536	C4	9915	B5
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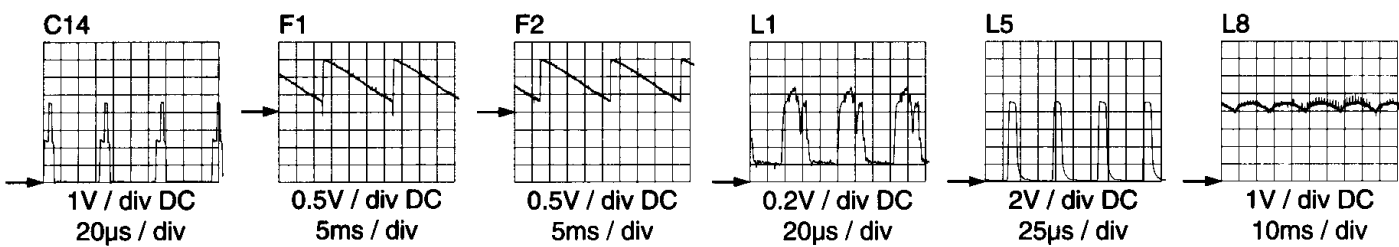
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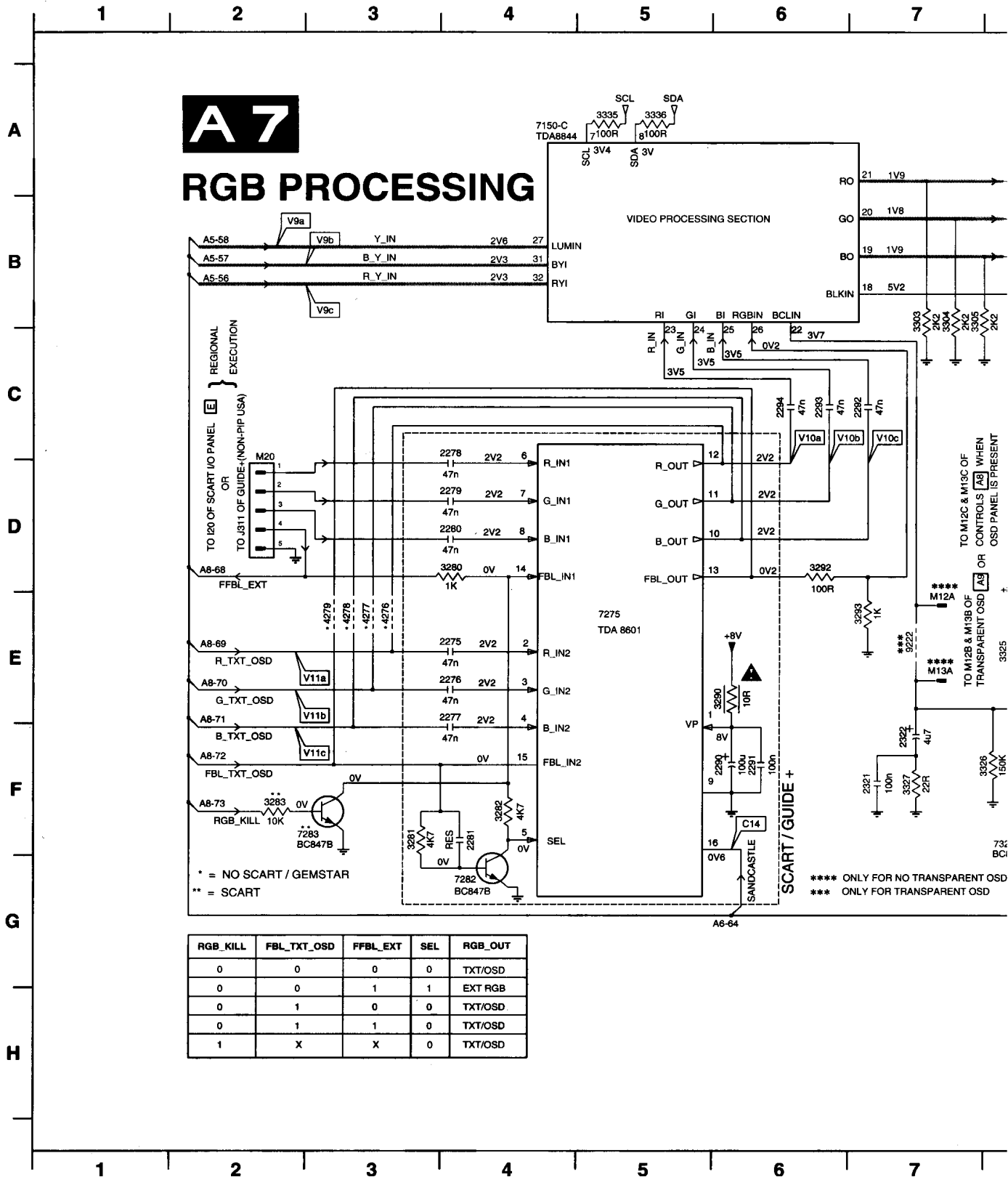


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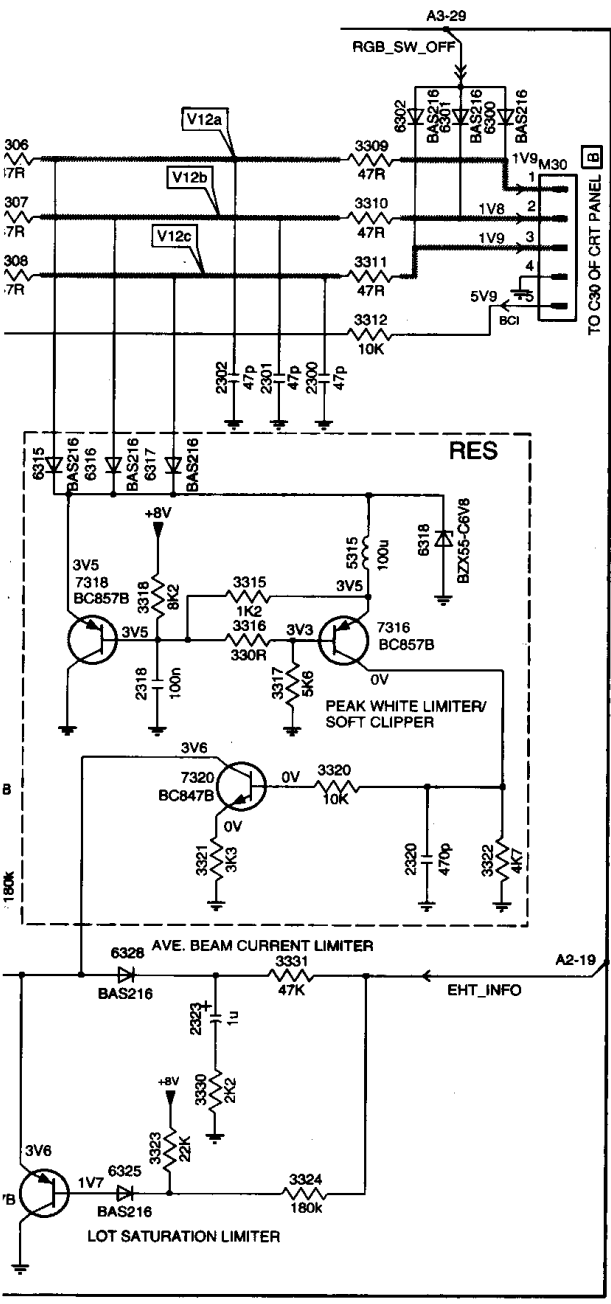
12 2.2V DC



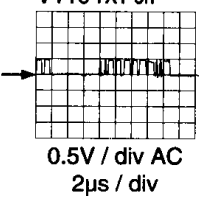
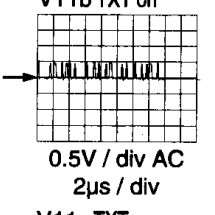
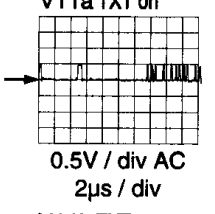
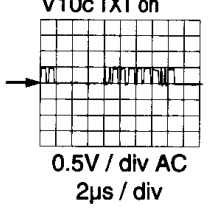
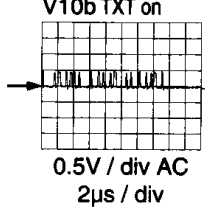
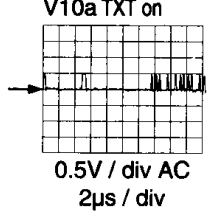
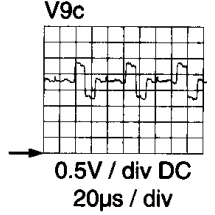
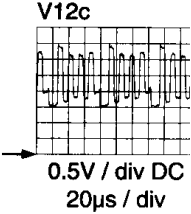
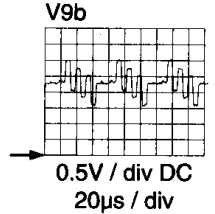
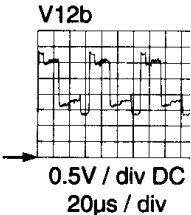
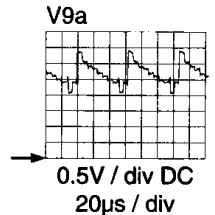
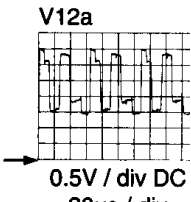
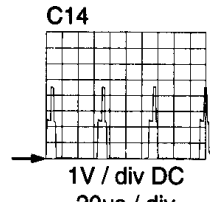




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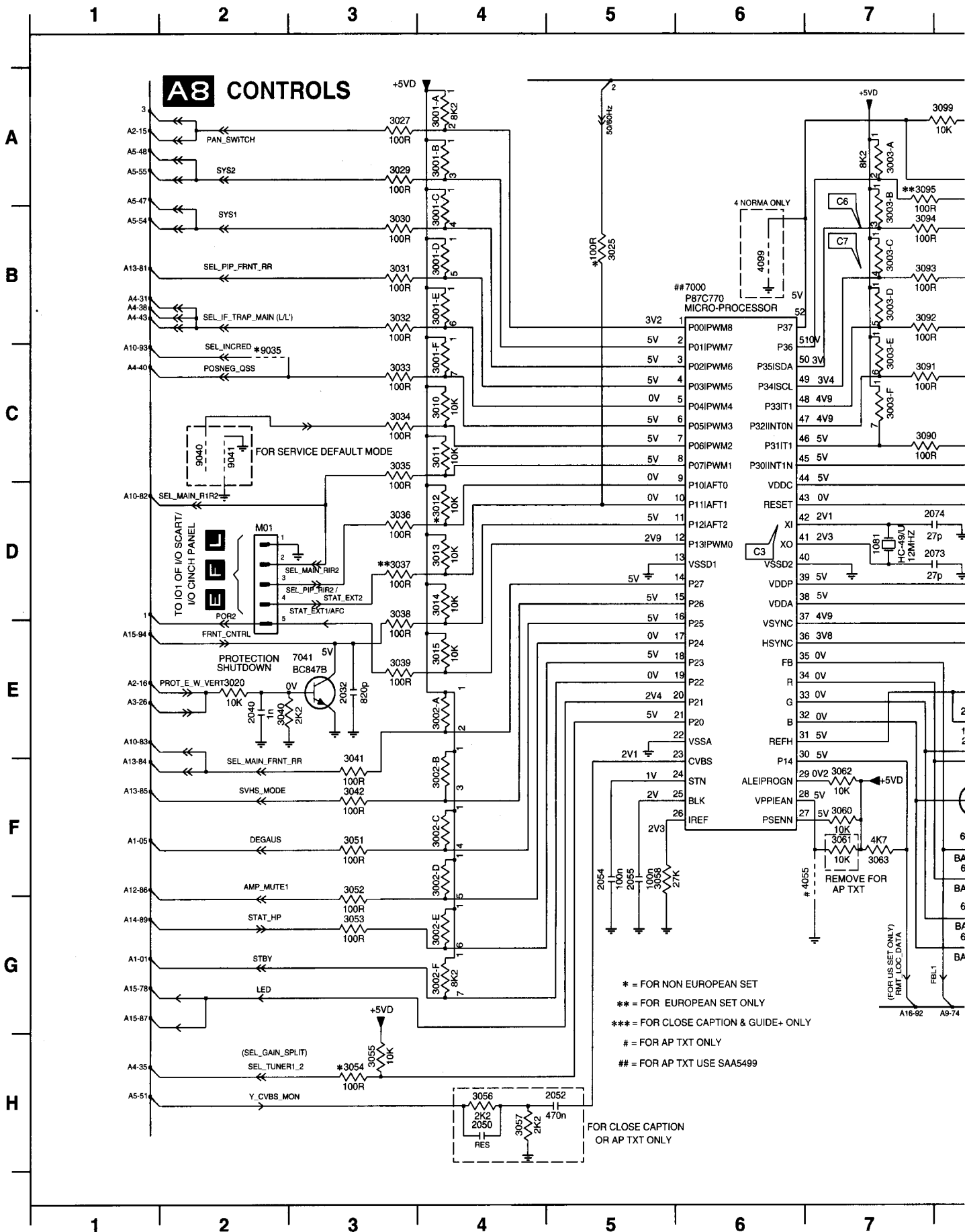


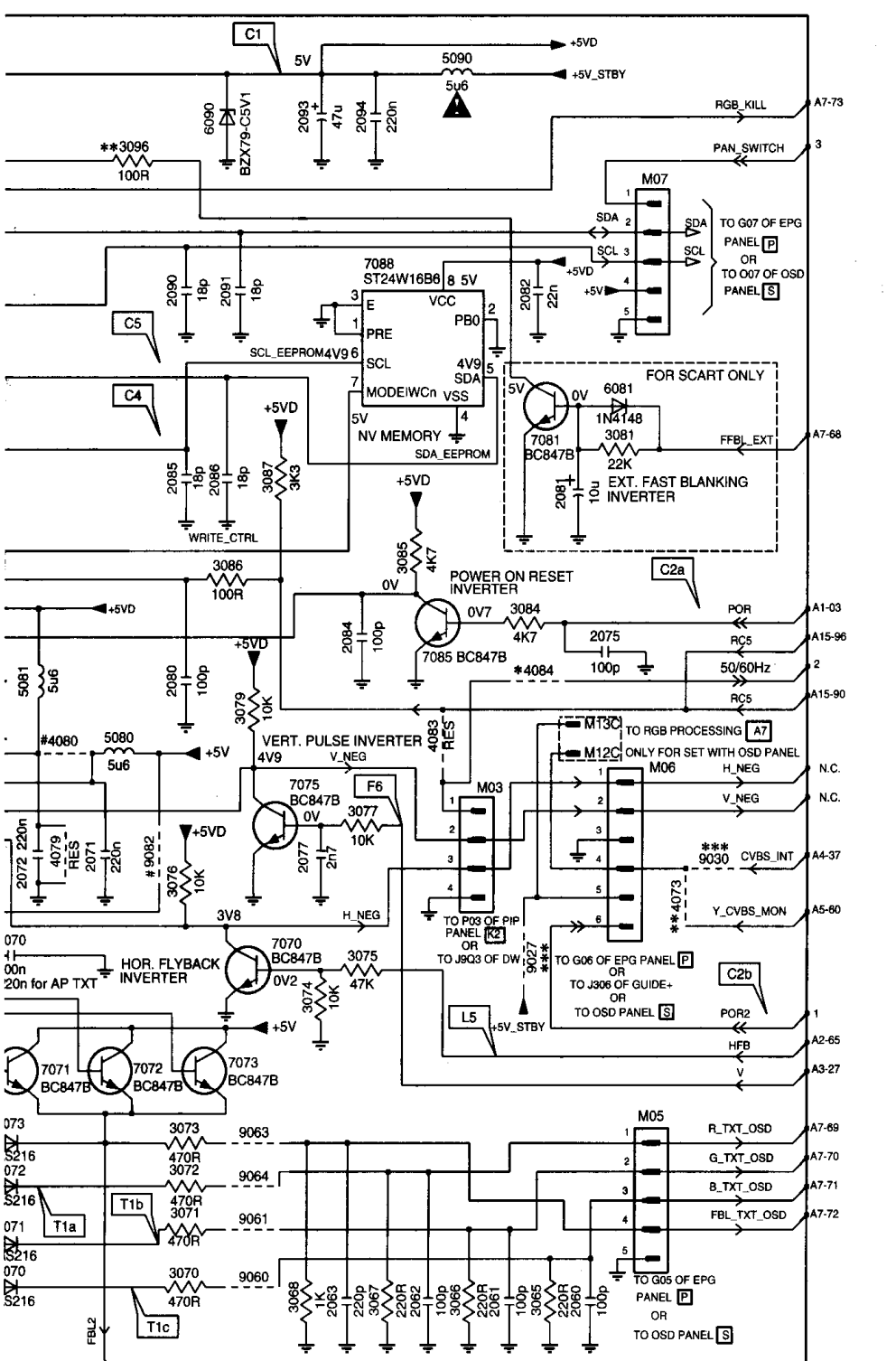
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- 2291 F6
- 2292 C7
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- 2301 C9
- 2302 C9
- 2318 D8
- 2320 E10
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- 2323 F9
- 3280 D4
- 3281 G3
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- 3283 F2
- 3290 E6
- 3292 D6
- 3293 E7
- 3303 C7
- 3304 C7
- 3305 C7
- 3306 A8
- 3307 B8
- 3308 B8
- 3309 A10
- 3310 B10
- 3311 B10
- 3312 B10
- 3315 D9
- 3316 D9
- 3317 D9
- 3318 D8
- 3320 D9
- 3321 E9
- 3322 E10
- 3323 F9
- 3324 G9
- 3325 E8
- 3326 F8
- 3327 F7
- 3330 F9
- 3331 E9
- 3335 A5
- 3336 A5
- 4276 E3
- 4277 E3
- 4278 E3
- 4279 E3
- 5315 C9
- 6300 A10
- 6301 A10
- 6302 A10
- 6315 C8
- 6316 C8
- 6317 C8
- 6318 C10
- 6325 G8
- 6328 E8
- 7150-C A4
- 7282 G4
- 7283 G2
- 7316 D10
- 7318 D8
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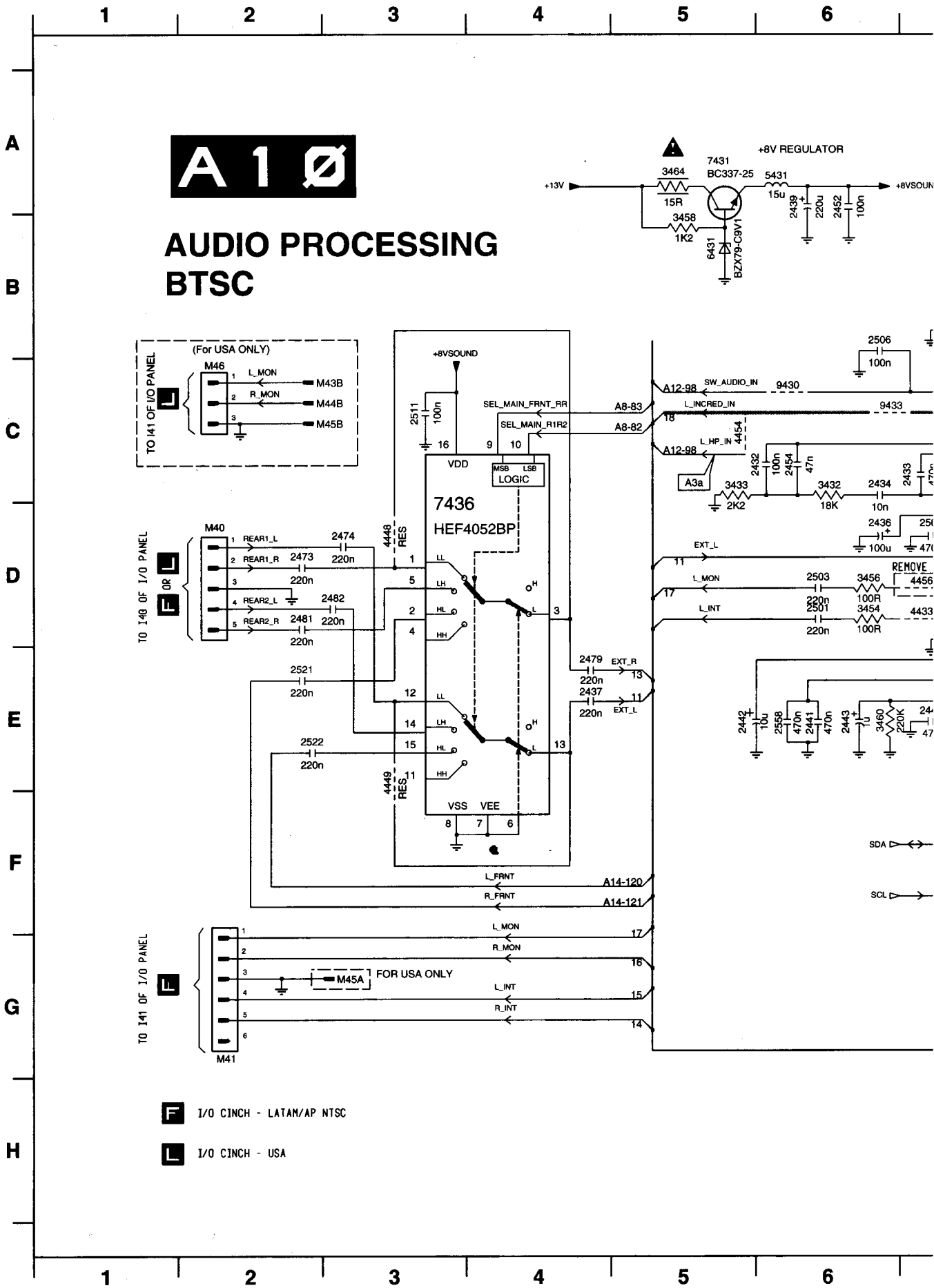


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B  
C  
D  
E  
F  
G  
H

- M01 D2
- M03 D10
- M05 F11
- M06 D11
- M07 A11
- 1081 D7
- 2032 E3
- 2040 E2
- 2050 H4
- 2052 H5
- 2054 F5
- 2055 F5
- 2060 G11
- 2061 G10
- 2062 G10
- 2063 G10
- 2070 E8
- 2071 E8
- 2072 E8
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- 2080 D9
- 2081 C11
- 2082 B11
- 2084 D10
- 2085 C9
- 2086 C9
- 2090 B9
- 2091 B9
- 2093 A9
- 2094 A10
- 3001-A A4
- 3001-B A4
- 3001-C B4
- 3001-D B4
- 3001-E B4
- 3001-F C4
- 3002-A E4
- 3002-B F4
- 3002-C F4
- 3002-D F4
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- 3012 D4
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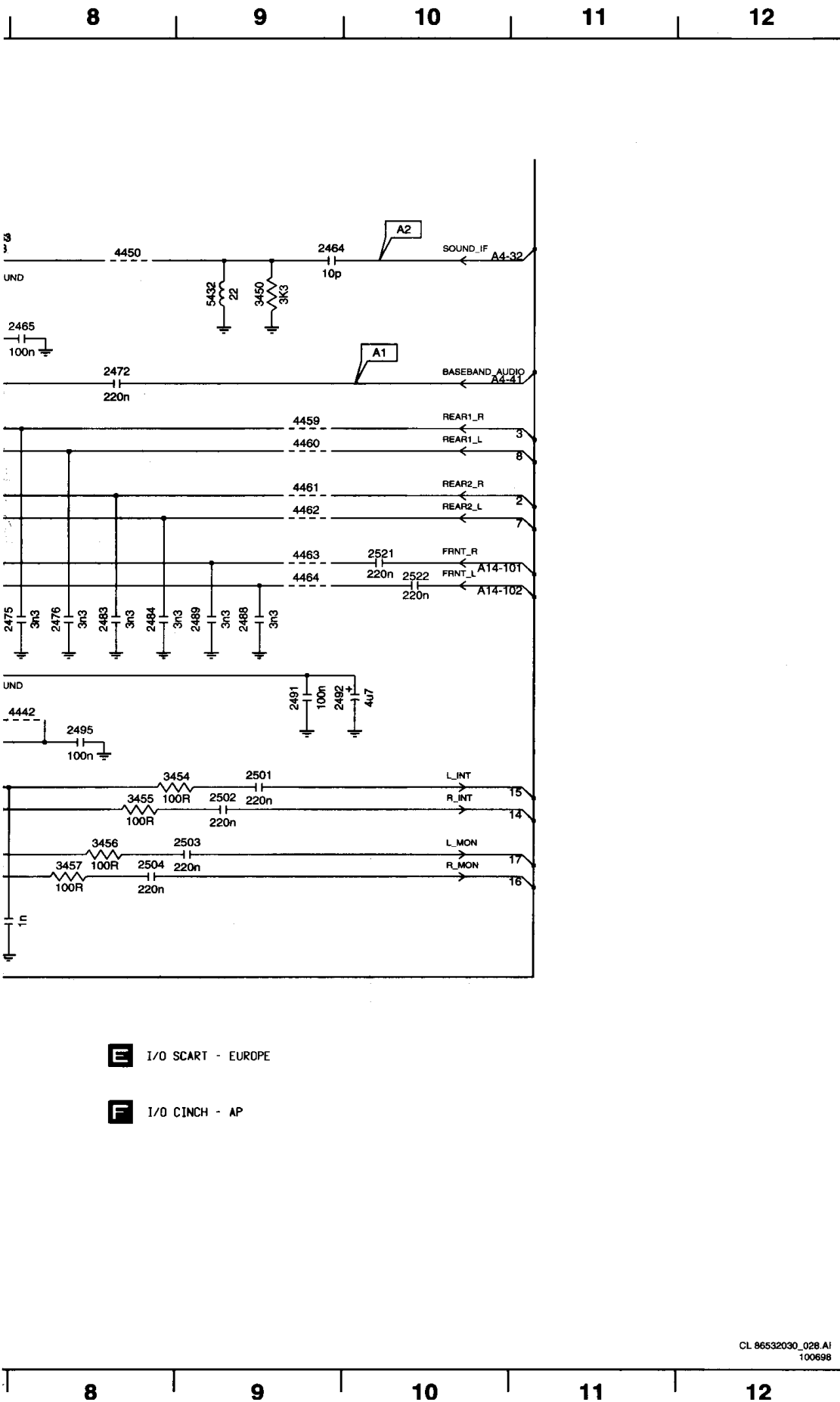
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- C1 5V DC
- C2a 2.9V DC
- C2a 2.9V DC
- C3 12MHz osc
- 1V / div AC
- 62.5ns / div
- C4 I<sup>2</sup>C SCL Eeprom
- 2V / div DC
- 50µs / div
- C5 I<sup>2</sup>C SDA Eeprom
- 2V / div DC
- 50µs / div
- C6 I<sup>2</sup>C SDA
- 2V / div DC
- 50µs / div
- C7 I<sup>2</sup>C SCL
- 2V / div DC
- 50µs / div
- F6
- 2V / div DC
- 5ms / div
- T1b TXT on
- 0.2V / div AC
- 20µs / div
- L5
- 2V / div DC
- 25µs / div
- T1c TXT on
- 0.2V / div AC
- 20µs / div
- T1a TXT on
- 0.2V / div AC
- 20µs / div

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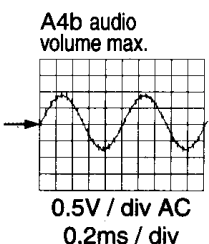
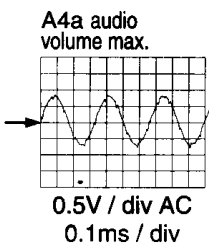
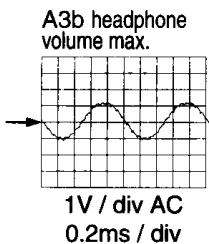
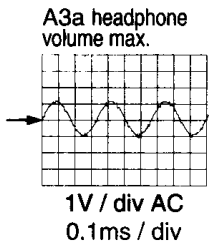
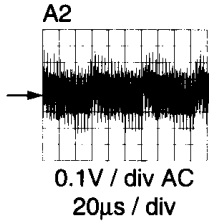
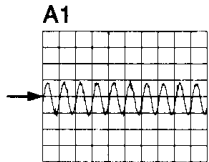




**E** I/O SCART - EUROPE

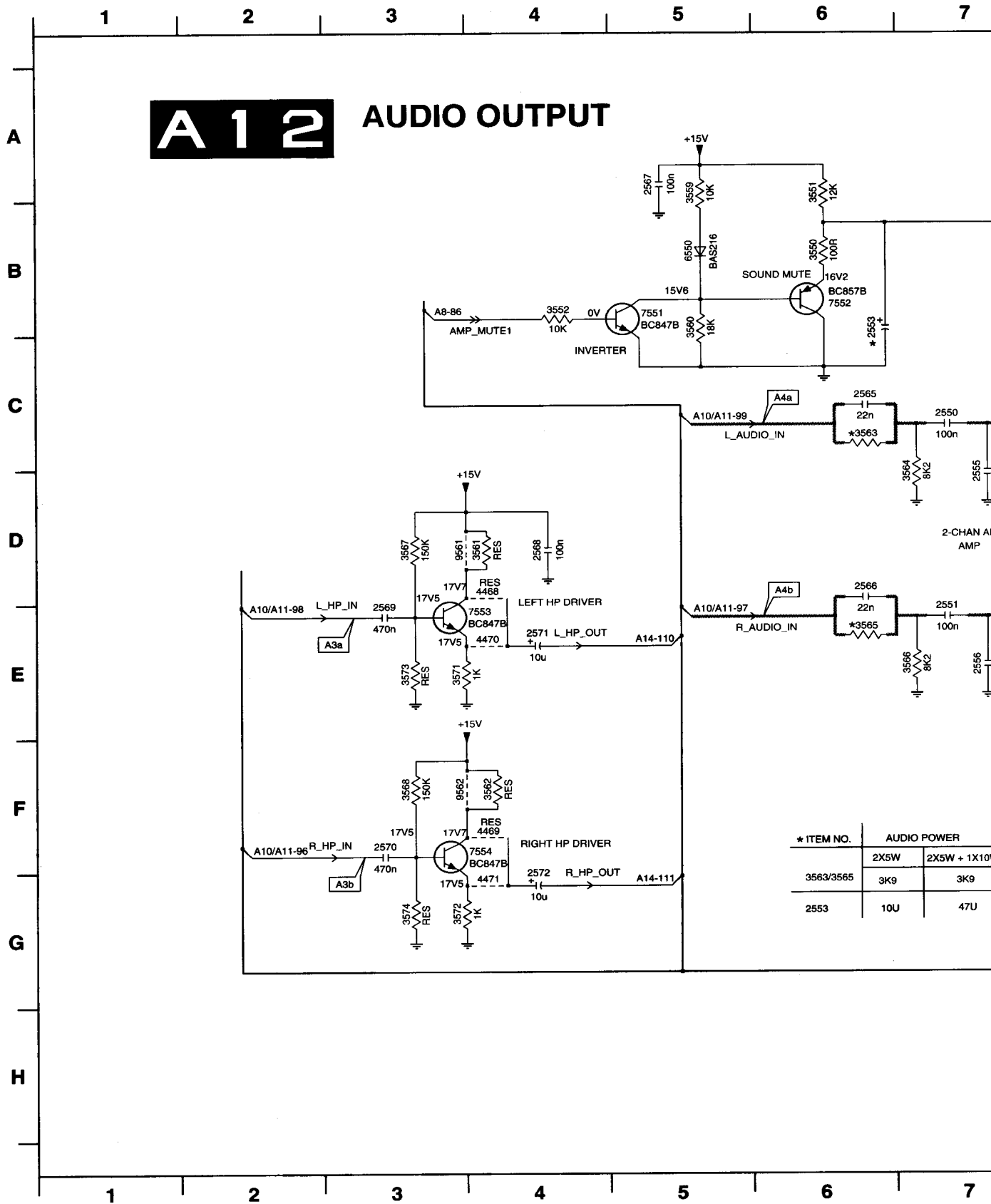
**F** I/O CINCH - AP

- M40 F5
- M41 H5
- 1430 A7
- 2439 C3
- 2445 D4
- 2446 D5
- 2447 F4
- 2448 F5
- 2450 F5
- 2451 F5
- 2452 C3
- 2453 B3
- 2456 A7
- 2457 A7
- 2458 F4
- 2460 B7
- 2462 B7
- 2463 B7
- 2464 B9
- 2465 B8
- 2466 B2
- 2467 D7
- 2468 D7
- 2472 B8
- 2473 F6
- 2474 F6
- 2475 D8
- 2476 D8
- 2481 G6
- 2482 G6
- 2483 D8
- 2484 D8
- 2488 D9
- 2489 D9
- 2491 D9
- 2492 D9
- 2494 E7
- 2495 E8
- 2496 E7
- 2497 F7
- 2498 F7
- 2499 F7
- 2500 F7
- 2501 E9
- 2502 E9
- 2503 E9
- 2504 F8
- 2521 D10
- 2522 D10
- 3430 B5
- 3431 B4
- 3436 D4
- 3450 B9
- 3454 E9
- 3455 E8
- 3456 E8
- 3457 F8
- 3458 C2
- 3460 D5
- 3464 C2
- 4430 B5
- 4431 B5
- 4432 B5
- 4434 B5
- 4436 D5
- 4437 E4
- 4439 E7
- 4442 E8
- 4443 B7
- 4444 D7
- 4445 B7
- 4446 C7
- 4447 B7
- 4450 B8
- 4451 E4
- 4453 E4
- 4455 E7
- 4458 B7
- 4459 C9
- 4460 C9
- 4461 C9
- 4462 C9
- 4463 D9
- 4464 D9
- 4465 B5
- 4466 E4
- 4467 E4
- 5430 B2
- 5431 C3
- 5432 B9
- 6430 D4
- 6431 D2
- 7430 A5
- 7431 C2
- 9434 D4



OSC\_A11.ai



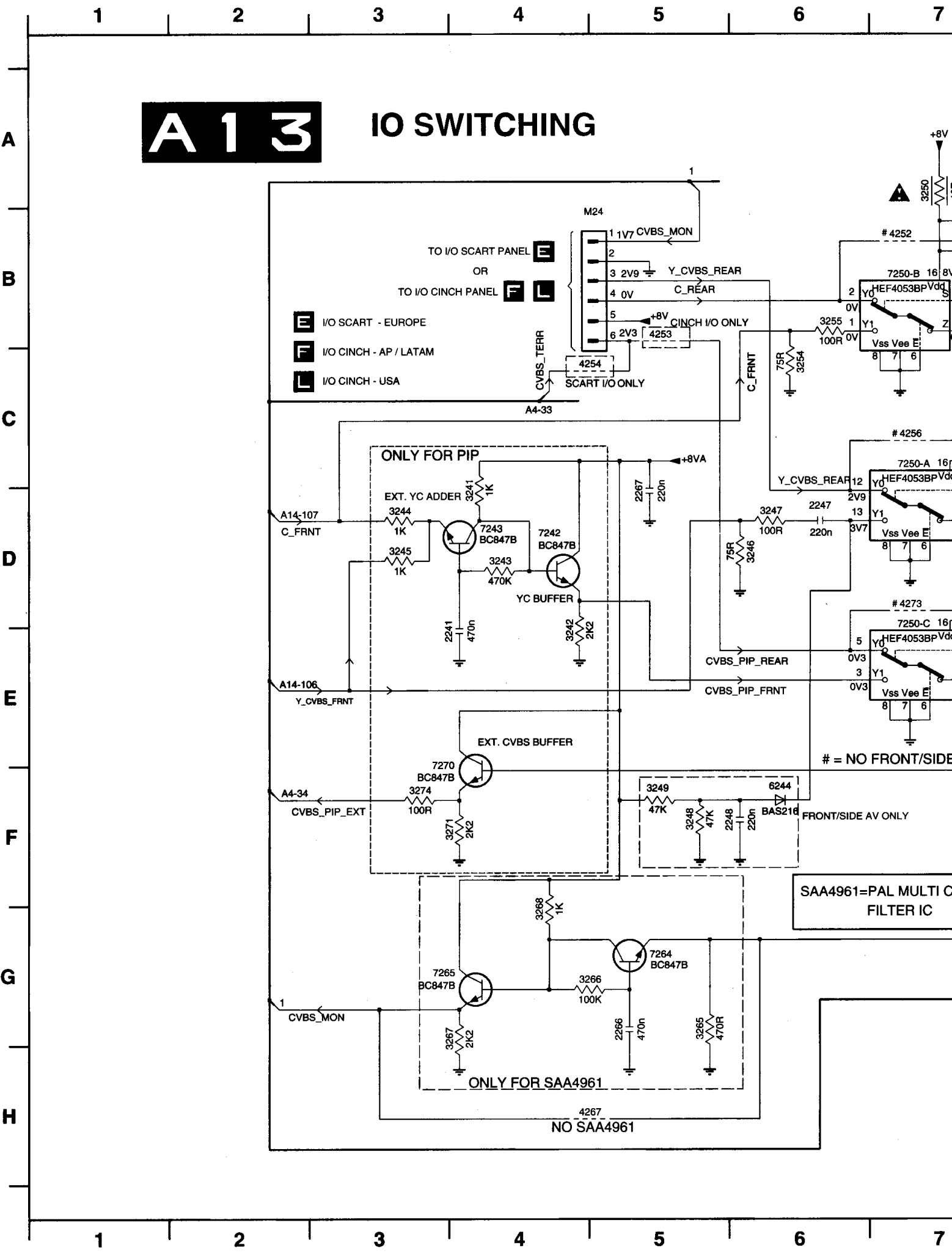


* ITEM NO.	AUDIO POWER	
	2X5W	2X5W + 1X10W
3563/3565	3K9	3K9
2553	10U	47U



**A 1 3**

**IO SWITCHING**



- M24 B5
- 2241 E4
- 2247 D6
- 2248 F6
- 2250 B8
- 2251 B8
- 2259 B10
- 2261 F9
- 2263 E10
- 2266 G5
- 2267 D5
- 3241 D4
- 3242 E4
- 3243 D4
- 3244 D3
- 3245 D3
- 3246 D6
- 3247 D6
- 3248 F5
- 3249 F5
- 3250 A7
- 3251 B9
- 3252 C9
- 3253 C9
- 3254 C6
- 3255 B6
- 3257 D9
- 3260 F9
- 3261 F9
- 3262 F10
- 3263 E10
- 3264 G10
- 3265 G5
- 3266 G5
- 3267 G4
- 3268 G4
- 3271 F4
- 3274 F3
- 4252 B7
- 4253 B5
- 4254 C5
- 4256 C7
- 4267 H5
- 4273 D7
- 6244 F6
- 7242 D4
- 7243 D4
- 7250-A C7
- 7250-B B7
- 7250-C D7
- 7251 B9
- 7255 D9
- 7261 F9
- 7264 G5
- 7265 G4
- 7270 F4

A

B

C

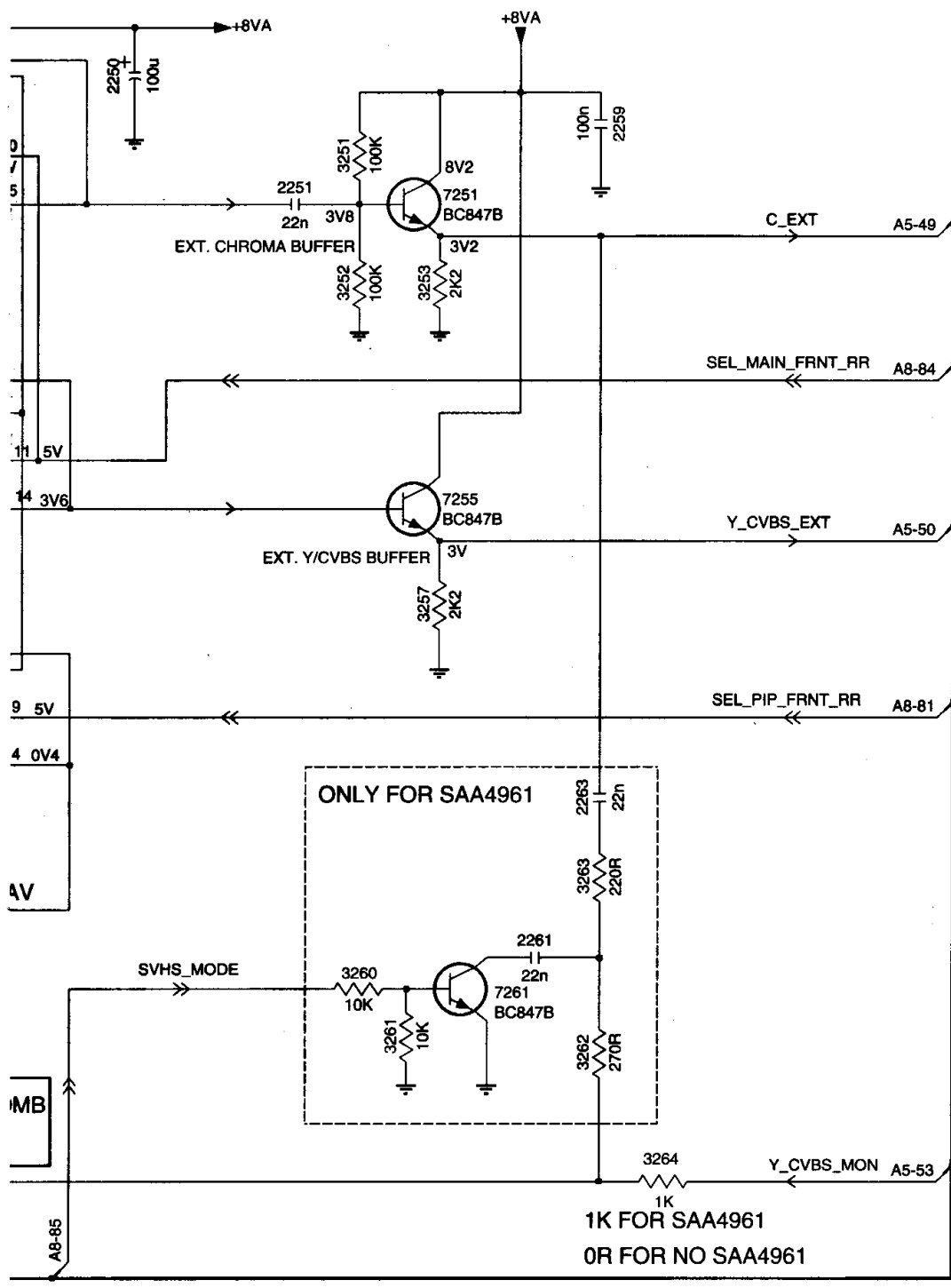
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E

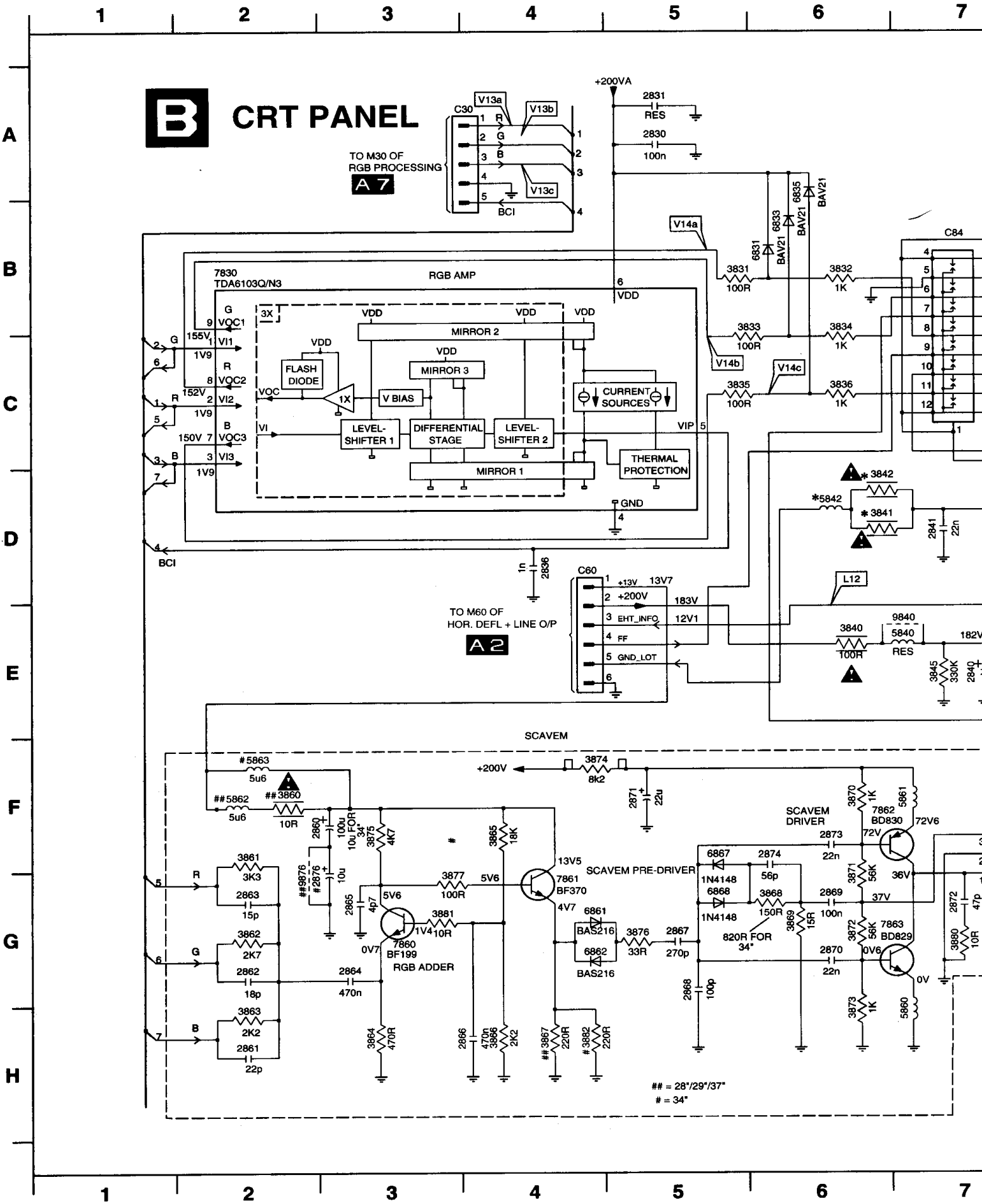
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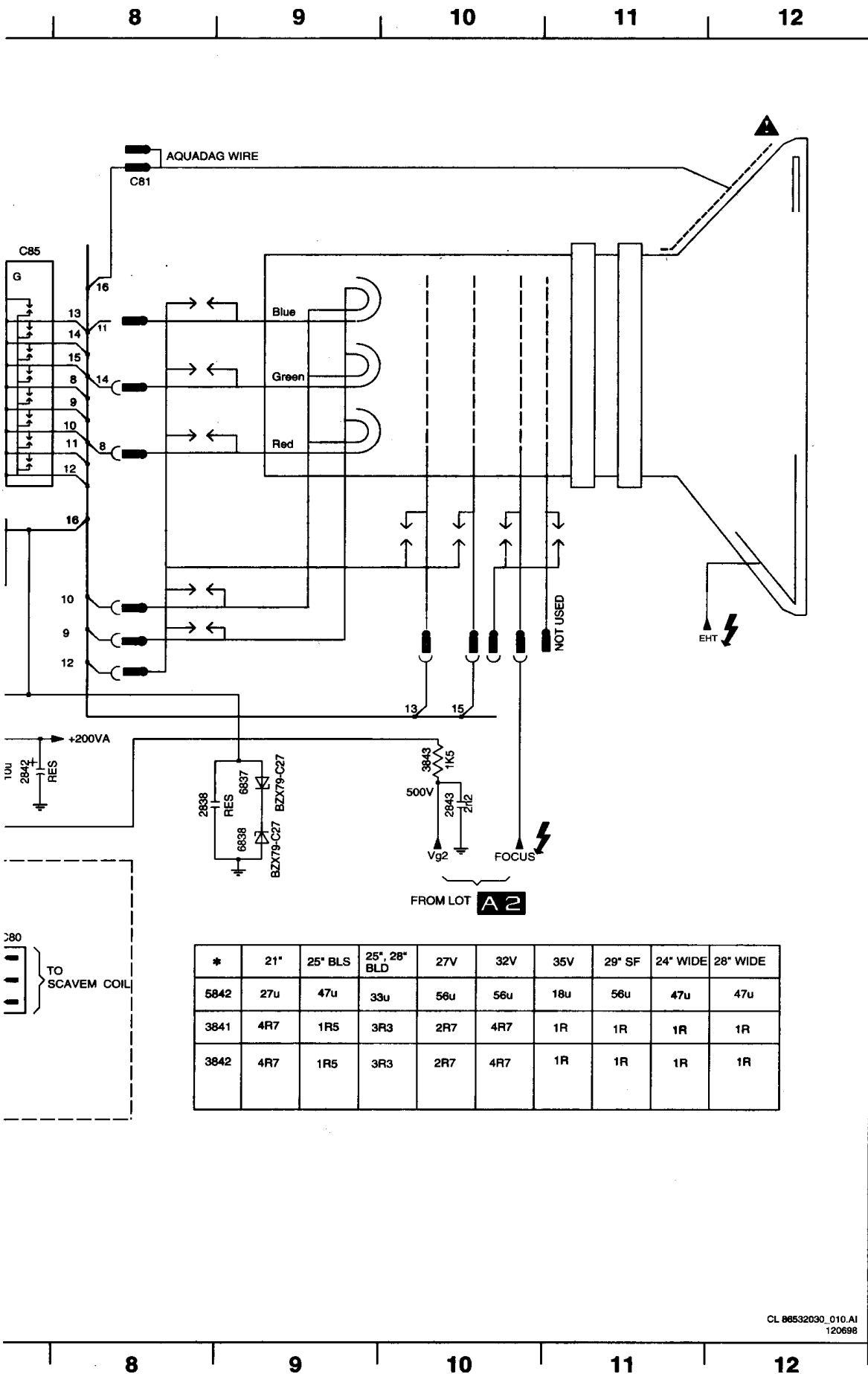
G

H



2032	B4	2302	B5	2560	C2	3056	B3	3244	A7	3551	D3	4032	A5	4267	B7	4521	B2	7243	A7
2040	B4	2318	B5	2561	C2	3057	B3	3245	A7	3552	D3	4039	B4	4273	B7	4522	B2	7251	B7
2050	B3	2320	B5	2562	C2	3058	B3	3247	A7	3559	D3	4041	B4	4274	B7	4523	B2	7255	B7
2052	B3	2321	A6	2565	D2	3060	B3	3248	A7	3560	D2	4043	B1	4275	A5	4524	B2	7261	B7
2054	B4	2351	A4	2566	D2	3061	B3	3249	A7	3563	D2	4044	B1	4276	A5	4525	B2	7264	B7
2055	B3	2352	A4	2567	D3	3062	B4	3251	B7	3564	D2	4050	B3	4277	A5	4526	B2	7265	B7
2060	A4	2430	C3	2568	D1	3063	B3	3252	B7	3565	D2	4051	B4	4278	A5	4527	B2	7270	B7
2061	A4	2431	C2	2569	D2	3065	A4	3253	B7	3566	D2	4052	B4	4279	A5	4528	B2	7282	A5
2062	A4	2432	D2	2570	D2	3066	A4	3255	A7	3567	D1	4053	B4	4280	A5	4529	B2	7283	A5
2063	A4	2433	D2	2602	E7	3067	A4	3257	B7	3568	D1	4054	B3	4304	A6	4530	C3	7316	B5
2070	B4	2434	D2	2646	C6	3068	A4	3260	B7	3569	C4	4055	B3	4323	B5	4531	B2	7318	B5
2071	B4	2437	C2	2647	C7	3070	A3	3261	B7	3570	C3	4056	B3	4350	A4	4532	B2	7320	B5
2072	B4	2438	C2	2670	C7	3071	A3	3262	B7	3573	D1	4067	A4	4430	C2	4533	B2	7325	B5
2073	B4	2441	D2	2673	B7	3072	A3	3263	B7	3574	D1	4070	A4	4431	C2	4534	B2	7350	A4
2074	B4	2444	C2	2705	B7	3073	A3	3264	B7	3575	C1	4072	B4	4432	C2	4535	B3	7352	A4
2075	A5	2446	C2	2709	B7	3074	B4	3265	B7	3576	D1	4073	B3	4433	C2	4536	C3	7353	A4
2077	B4	2447	C2	2710	B7	3076	B4	3266	B7	3616	D7	4077	C4	4434	C2	4537	C3	7356	A4
2080	B4	2448	C2	2746	C6	3079	B4	3267	B7	3618	E7	4079	B4	4435	C2	4538	C3	7361	A4
2082	A4	2450	C2	2760	D2	3085	A4	3268	B7	3627	D7	4080	B4	4436	D2	4539	B2	7363	A4
2084	B4	2451	C2	2761	D2	3086	A4	3271	B7	3670	C7	4081	A4	4437	D2	4540	B2	7374	A4
2085	A4	2452	C3	2763	D2	3087	A4	3280	A5	3671	B7	4083	A3	4438	C2	4647	C7	7551	D2
2086	A4	2453	C3	2765	D2	3090	B4	3281	A5	3672	B7	4084	B4	4439	B2	4747	B6	7552	D3
2088	B4	2454	D2	2766	D2	3091	B4	3282	A5	3673	B7	4085	B4	4440	C3	4815	A6	7715	C7
2090	A4	2455	C2	2768	D2	3092	B4	3283	A5	3709	B7	4086	A4	4441	B2	4901	C4	7716	C6
2091	A5	2456	C3	2769	E2	3096	B4	3293	A6	3710	B7	4088	A4	4442	B2	4902	C4	7760	D2
2094	B4	2457	C3	2770	E2	3097	B4	3303	A6	3717	C6	4099	B4	4443	C2	4903	C5	7800	A6
2124	A7	2459	C2	2771	E2	3098	B4	3304	A6	3731	C6	4117	A5	4444	C2	4904	D5	7909	C5
2127	A7	2460	C2	2772	E2	3099	B4	3305	A6	3732	C7	4124	B6	4445	B2	4906	D5	7910	C5
2144	A7	2461	C2	2810	A7	3110	A4	3309	B5	3740	C7	4125	A7	4446	C2	4910	D4	7960	D5
2145	A7	2462	C2	2811	A6	3111	A4	3310	B5	3744	C6	4126	A7	4447	C3	4911	D3	7961	C5
2146	A7	2463	C2	2812	A6	3116	A4	3311	B5	3746	C6	4127	A7	4448	B2	4920	D6	7962	C5
2147	A7	2464	B3	2813	A6	3117	A5	3312	B5	3747	C6	4128	A7	4449	B2	4930	C5	7963	C4
2148	A7	2465	C2	2814	A6	3126	A7	3315	B5	3748	C6	4129	A7	4450	C3	4931	C5		
2149	A7	2467	C2	2815	A6	3128	A7	3316	B5	3760	D2	4130	A7	4451	C2	4940	C5		
2153	A7	2469	C2	2816	A6	3129	A7	3317	B5	3761	D2	4131	A7	4452	D2	4942	C5		
2155	A7	2470	C2	2817	A6	3130	A7	3318	B5	3762	D2	4132	A7	4453	D2	4945	C5		
2157	A6	2471	C2	2818	A6	3131	A7	3320	B5	3763	D2	4133	A7	4454	D2	6040	B1		
2161	B7	2472	C2	2820	A6	3141	A7	3321	B5	3765	D2	4134	A7	4455	C2	6070	A3		
2171	A6	2473	B3	2821	A6	3142	A6	3322	B5	3766	D2	4135	A7	4456	C1	6071	A3		
2176	B6	2474	B3	2936	C5	3143	A6	3324	B5	3767	D1	4136	A7	4457	C1	6072	A3		
2177	B6	2475	C2	2939	D4	3145	A7	3325	B5	3769	E1	4137	A7	4458	C3	6073	A3		
2180	B6	2476	C2	2940	C5	3146	A7	3326	B5	3770	D2	4142	A7	4459	C2	6110	A4		
2181	B6	2479	C2	2945	C5	3150	A7	3327	B6	3771	E2	4143	A7	4460	C2	6130	A7		
2186	A6	2480	C2	2946	C5	3153	A7	3330	B5	3800	A6	4145	A6	4461	B2	6131	A7		
2188	A6	2481	B3	2947	D5	3157	B7	3331	B5	3801	A7	4149	A7	4462	B2	6244	A7		
2189	A6	2482	B3	2950	D5	3158	A7	3350	A4	3803	C6	4156	A6	4463	B1	6300	B5		
2190	A6	2483	C2	3010	B4	3159	B7	3351	A4	3804	A6	4162	B7	4464	B1	6301	B5		
2191	A6	2484	C2	3011	B4	3160	A7	3352	A4	3805	A6	4163	B6	4465	C2	6302	B5		
2192	A6	2485	C2	3012	B4	3161	B7	3353	A4	3806	A7	4170	A6	4466	D2	6315	B5		
2196	A6	2490	C2	3013	B4	3163	B6	3354	A4	3807	A6	4171	A6	4467	D2	6316	B5		
2197	A6	2491	C2	3014	B4	3164	B6	3355	A4	3808	A6	4172	B6	4468	D1	6317	B5		
2239	D1	2495	C2	3015	B4	3165	B7	3356	A4	3809	A7	4181	B6	4469	D1	6325	B5		
2240	D1	2497	C1	3017	E1	3166	B7	3357	A4	3810	A7	4190	A6	4470	D1	6328	B5		
2241	A7	2498	C1	3018	E1	3167	B7	3358	A4	3811	A6	4192	A6	4471	D1	6430	C2		
2247	A7	2499	C1	3025	B4	3168	B7	3360	A3	3813	A7	4195	A6	4500	D2	6550	D2		
2248	A7	2500	C2	3027	B4	3169	B7	3361	A4	3814	A6	4198	A6	4501	C1	7041	B4		
2251	B7	2501	C1	3029	B4	3170	B6	3364	A3	3910	D3	4201	B6	4502	D2	7070	A4		
2259	B7	2502	C1	3030	B4	3171	B6	3430	C2	3911	D3	4225	A6	4503	C2	7071	A4		
2261	B7	2503	C1	3031	B4	3172	B6	3431	C2	3926	E6	4226	A5	4504	C2	7072	A4		
2263	B7	2504	C1	3032	B4	3173	B6	3432	D2	3932	C6	4227	A6	4505	C2	7073	A4		
2266	B7	2505	C2	3033	B4	3174	B7	3433	D2	3933	C6	4230	D1	4506	C2	7075	B3		
2267	B7	2506	C2	3034	B4	3175	B6	3434	C2	3939	D4	4244	B7	4507	C2	7081	B5		
2275	A5	2507	C2	3035	B4	3176	B6	3435	C2	3943	C5	4250	B7	4508	C2	7085	A4		
2276	A5	2508	C2	3036	B4	3189	A6	3436	C2	3944	D5	4251	B7	4509	C2	7159	B7		
2277	A5	2509	C2	3037	B4	3190	A6	3450	B3	3945	C5	4252	B7	4510	C2	7161	B6		
2278	A5	2511	B2	3038	B4	3191	A6	3451	B2	3955	C5	4253	B7	4511	D2	7166	B7		
2279	A5	2521	B1	3039	B4	3192	A6	3452	B2	3963	C5	4254	B7	4512	D2	7167	B7		
2280	A5	2522	B1	3040	B4	3193	A6	3453	D1	3965	C4	4255	B7	4513	D2	7170	B7		
2281	A5	2550	D3	3043	B1	3194	A5	3454	C1	3976	E6	4256	B7	4514	D2	7176	B6		
2291	A5	2551	D3	3044	B1	3197	A6	3455	C2	4001	C1	4257	B7	4515	C3	7189	A6		
2292	A5	2552	C4	3045	B1	3239	D1	3456	C2	4003	C1	4258	A7	4516	C2	7190	A6		
2293	A5	2555	C4	3046	B1	3240	D1	3457	C1	4004	D2	4260	B7	4517	C1	7191	A6		
2294	A5	2556	C4	3048	B1	3241	B7	3458	D3	4023	B3	4261	B7	4518	C1	7192	A6		
2300	B5	2558	D2	3049	B1	3242	B7	3460	D2	4025	B4	4262	B7	4519	C1	7193	A6		
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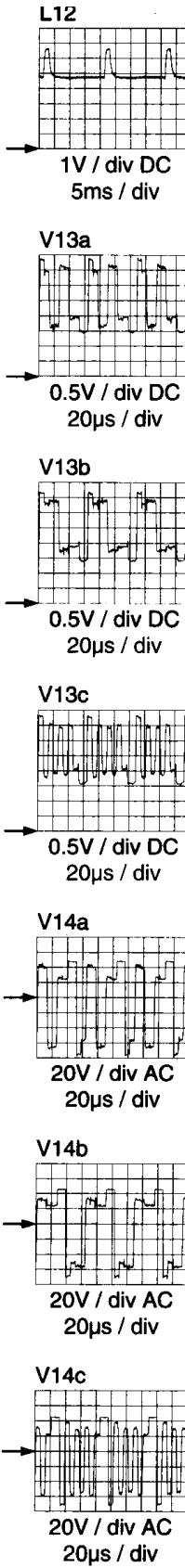




*	21"	25" BLS	25", 28" BLD	27V	32V	35V	29" SF	24" WIDE	28" WIDE
5842	27u	47u	33u	56u	56u	18u	56u	47u	47u
3841	4R7	1R5	3R3	2R7	4R7	1R	1R	1R	1R
3842	4R7	1R5	3R3	2R7	4R7	1R	1R	1R	1R

A  
B  
C  
D  
E  
F  
G  
H

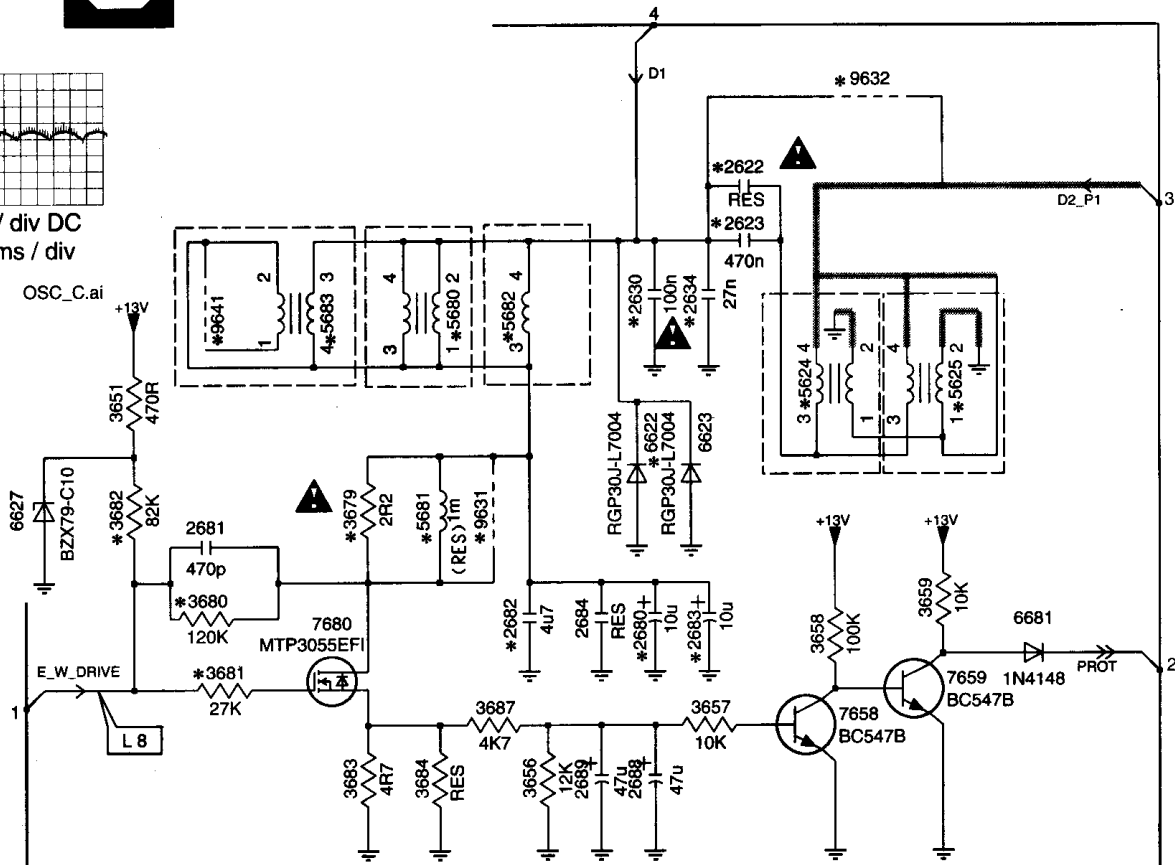
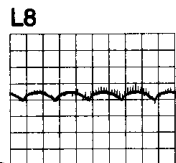
- C30 A4
- C60 D4
- C80 F7
- C84 B7
- C85 B7
- 2830 A5
- 2831 A5
- 2836 D4
- 2838 E8
- 2840 E7
- 2841 D7
- 2842 E7
- 2843 E10
- 2860 F2
- 2861 H2
- 2862 G2
- 2863 G2
- 2864 G3
- 2865 G3
- 2866 H4
- 2867 G5
- 2868 G5
- 2869 G6
- 2870 G6
- 2871 F5
- 2872 G7
- 2873 F6
- 2874 F6
- 2876 G2
- 3831 B5
- 3832 B6
- 3833 B6
- 3834 B6
- 3835 C5
- 3836 C6
- 3840 E6
- 3841 D6
- 3842 D6
- 3843 E10
- 3845 E7
- 3860 F2
- 3861 F2
- 3862 G2
- 3863 H2
- 3864 H3
- 3865 F4
- 3866 H4
- 3867 H4
- 3868 G6
- 3869 G6
- 3870 F6
- 3871 G6
- 3872 G6
- 3873 H6
- 3874 F4
- 3875 F3
- 3876 G5
- 3877 G3
- 3880 G7
- 3881 G3
- 3882 H4
- 5840 E7
- 5842 D6
- 5860 H7
- 5861 F7
- 5862 F2
- 5863 F2
- 6831 B6
- 6833 B6
- 6835 A6
- 6837 E9
- 6838 E9
- 6861 G4
- 6862 G4
- 6867 F5
- 6868 G5
- 7830 B2
- 7860 G3
- 7861 G4
- 7862 F6
- 7863 G6
- 9840 E7
- 9876 G2



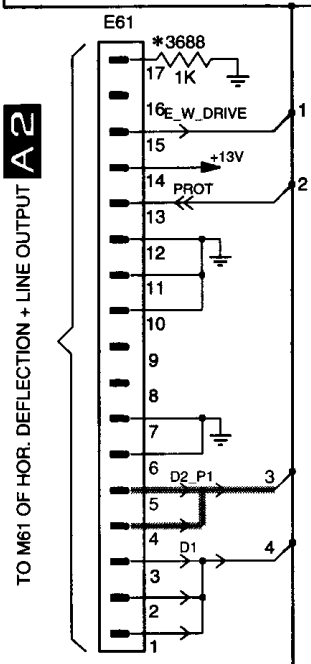
1 2 3 4 5



# EAST WEST PANEL



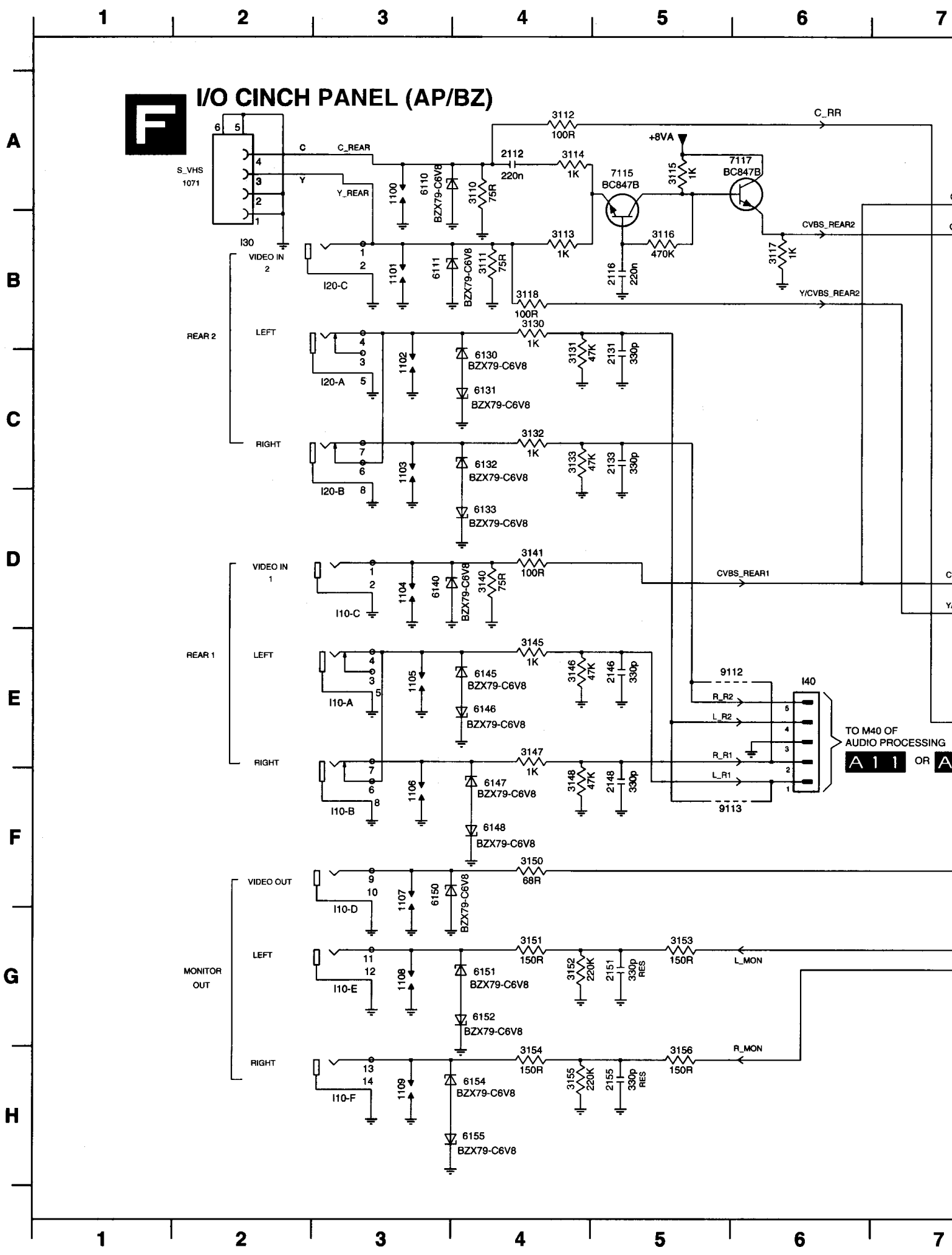
- E61 D1
- 2622 A4
- 2623 B4
- 2630 B3
- 2634 B3
- 2680 C3
- 2681 C1
- 2682 C3
- 2683 C3
- 2684 C3
- 2688 D3
- 2689 D3
- 3651 B1
- 3656 D3
- 3657 D3
- 3658 C4
- 3659 C4
- 3679 C2
- 3680 C1
- 3681 C2
- 3682 C1
- 3683 D2
- 3684 D2
- 3687 D3
- 3688 D1
- 5624 B4
- 5625 B4
- 5680 B2
- 5681 C2
- 5682 B3
- 5683 B2
- 6622 B3
- 6623 B3
- 6627 C5
- 6681 C1
- 7658 D4
- 7659 C4
- 7680 C2
- 9631 C3
- 9632 A4
- 9641 B2

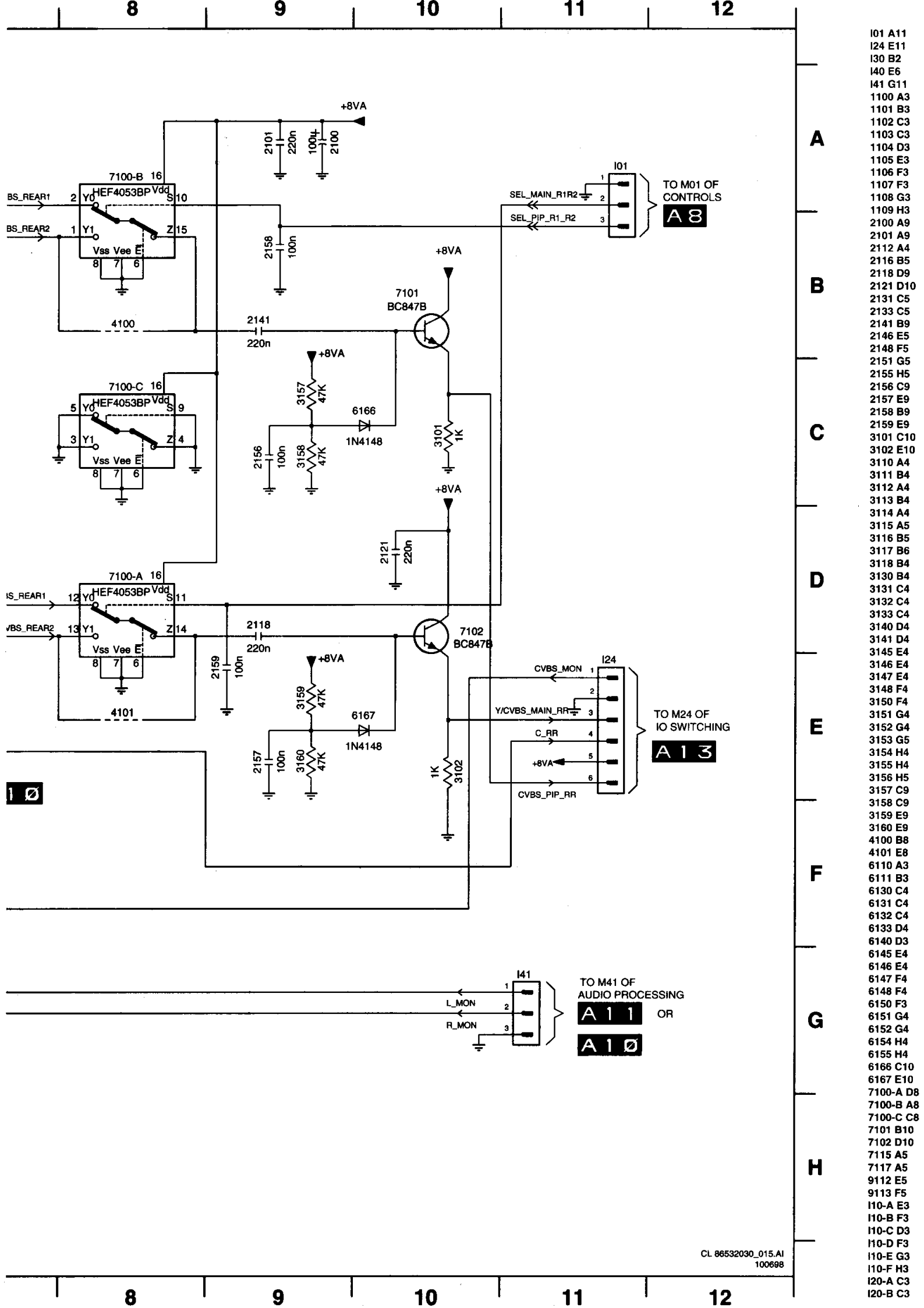


* ITEM	29SF	32V	35V	25BLS	25'+28*BLD
2622/23	470N	OUT	OUT	360N	330N
2630/34	22N	39N	27N	47N	56N
3680	120K	82K	82K	68K	82K
3681	1K	1K	1K	27K	27K
3682	82K	100K	100K	120K	100K
6622	BYW95C/20	BYW95C/20	BYW95C/20	RGF30J-L7004	RGF30J-L7004
9631	IN	OUT	OUT	IN	IN
9632	OUT	IN	IN	OUT	OUT
2680/83	10U	-	-	10U	10U
2682	-	4U7	4U7	-	-
3651	470R	1K5	470R	470R	470R
3679	-	6R8	6R8	-	-
5624/25	--34901 (CU20)	-	-	--34011 (CU15)	--34011 (CU15)
5680/82/83	--30531 (CU15)	--32861 (CU10)	--37021 (CU15)	--31941 (CU15)	--31941 (CU15)
9638	IN	OUT	OUT	OUT	OUT
9639	OUT	OUT	OUT	IN	IN
9640	OUT	IN	IN	OUT	OUT
9641	OUT	IN	OUT	OUT	OUT
3688	1K	-	-	-	-

1 2 3 4 5







- I01 A11
- I24 E11
- I30 B2
- I40 E6
- I41 G11
- I100 A3
- I101 B3
- I102 C3
- I103 C3
- I104 D3
- I105 E3
- I106 F3
- I107 F3
- I108 G3
- I109 H3
- I200 A9
- I201 A9
- I212 A4
- I216 B5
- I218 D9
- I2121 D10
- I2131 C5
- I2133 C5
- I2141 B9
- I2146 E5
- I2148 F5
- I2151 G5
- I2155 H5
- I2156 C9
- I2157 E9
- I2158 B9
- I2159 E9
- I301 C10
- I302 E10
- I310 A4
- I3111 B4
- I3112 A4
- I3113 B4
- I3114 A4
- I3115 A5
- I3116 B5
- I3117 B6
- I3118 B4
- I3130 B4
- I3131 C4
- I3132 C4
- I3133 C4
- I3140 D4
- I3141 D4
- I3145 E4
- I3146 E4
- I3147 E4
- I3148 F4
- I3150 F4
- I3151 G4
- I3152 G4
- I3153 G5
- I3154 H4
- I3155 H4
- I3156 H5
- I3157 C9
- I3158 C9
- I3159 E9
- I3160 E9
- I400 B8
- I401 E8
- I610 A3
- I611 B3
- I6130 C4
- I6131 C4
- I6132 C4
- I6133 D4
- I6140 D3
- I6145 E4
- I6146 E4
- I6147 F4
- I6148 F4
- I6150 F3
- I6151 G4
- I6152 G4
- I6154 H4
- I6155 H4
- I6166 C10
- I6167 E10
- I700-A D8
- I700-B A8
- I700-C C8
- I701 B10
- I7102 D10
- I7115 A5
- I7117 A5
- I9112 E5
- I9113 F5
- I10-A E3
- I10-B F3
- I10-C D3
- I10-D F3
- I10-E G3
- I10-F H3
- I20-A C3
- I20-B C3

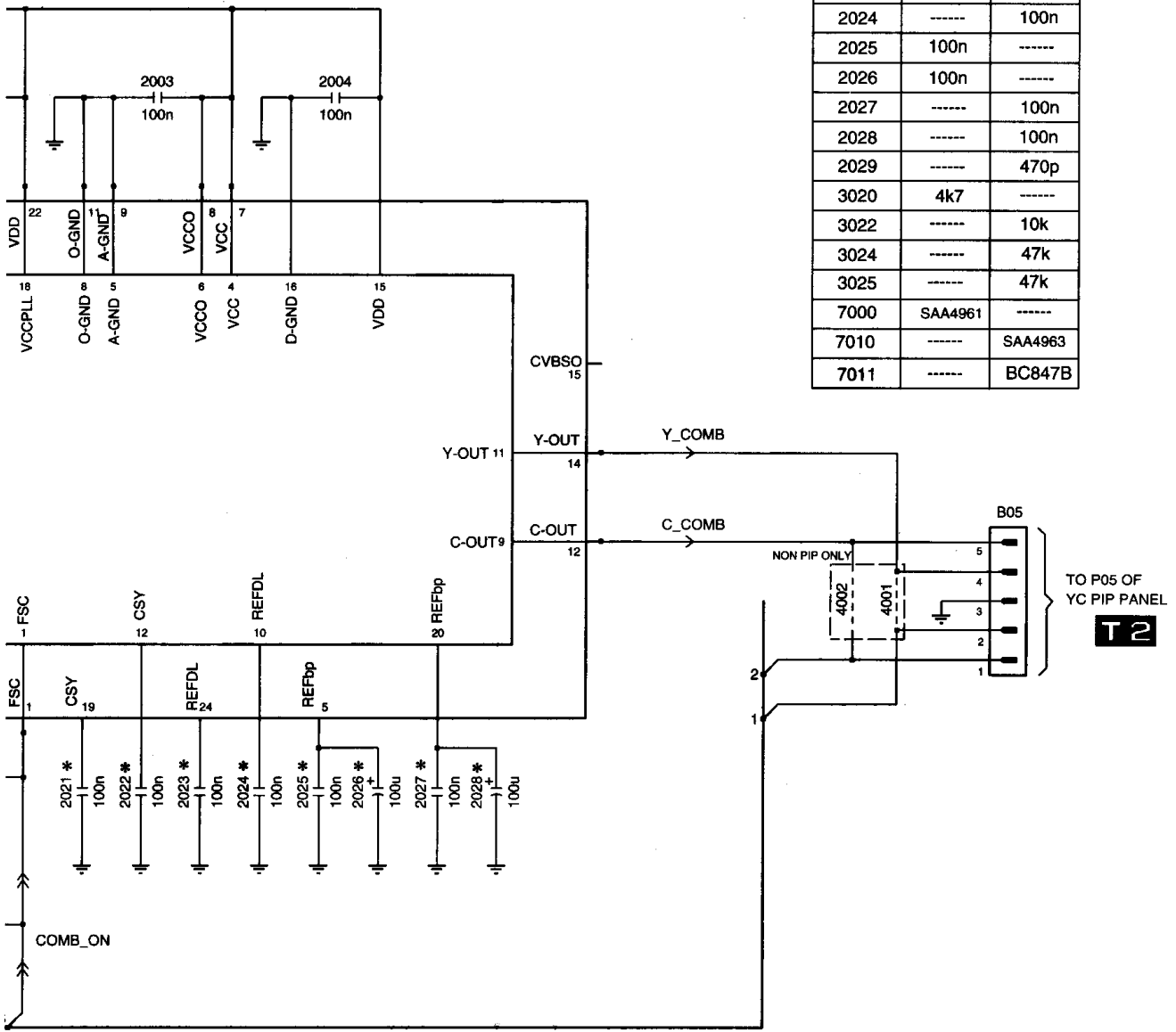


7 8 9 10 11 12

B05 D11  
 B25 E2  
 2000 B4  
 2001 B6  
 2002 B6  
 2003 B7  
 2004 B8  
 2010 C4  
 2011 D4  
 2012 D4  
 2013 D4  
 2020 F6  
 2021 F7  
 2022 F7  
 2023 F7  
 2024 F8  
 2025 F8  
 2026 F8  
 2027 F9  
 2028 F9  
 2029 G5  
 2029 G5  
 2030 D3  
 3012 D2  
 3013 D3  
 3020 E6  
 3022 F5  
 3024 G4  
 3025 G4  
 4001 E11  
 4002 E11  
 5000 B4  
 5012 D3  
 7000 C5  
 7010 C5  
 7011 G5

A  
 B  
 C  
 D  
 E  
 F  
 G  
 H

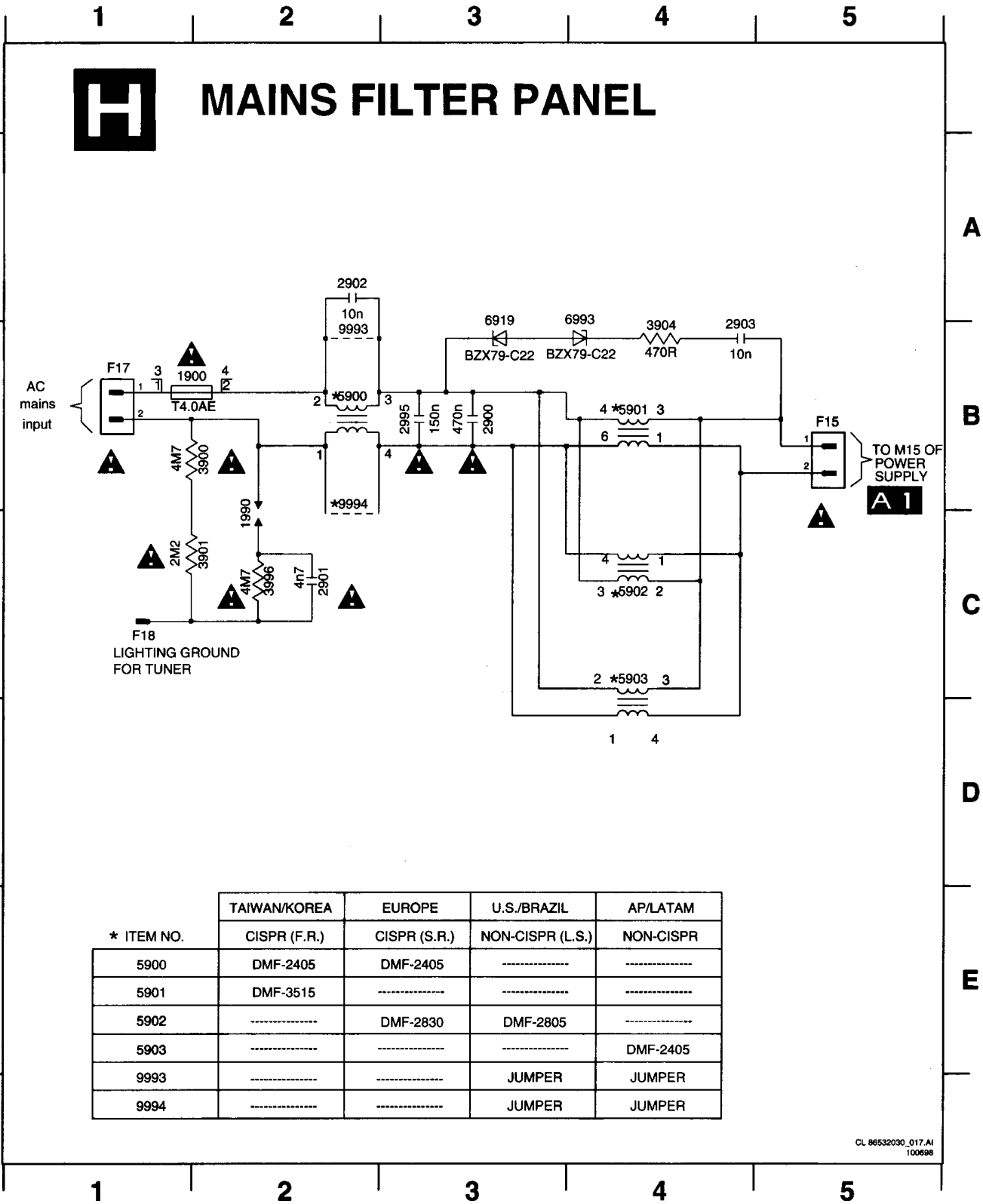
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2010	-----	470n
2021	100n	-----
2022	-----	100n
2023	100n	-----
2024	-----	100n
2025	100n	-----
2026	100n	-----
2027	-----	100n
2028	-----	100n
2029	-----	470p
3020	4k7	-----
3022	-----	10k
3024	-----	47k
3025	-----	47k
7000	SAA4961	-----
7010	-----	SAA4963
7011	-----	BC847B



7 8 9 10 11 12

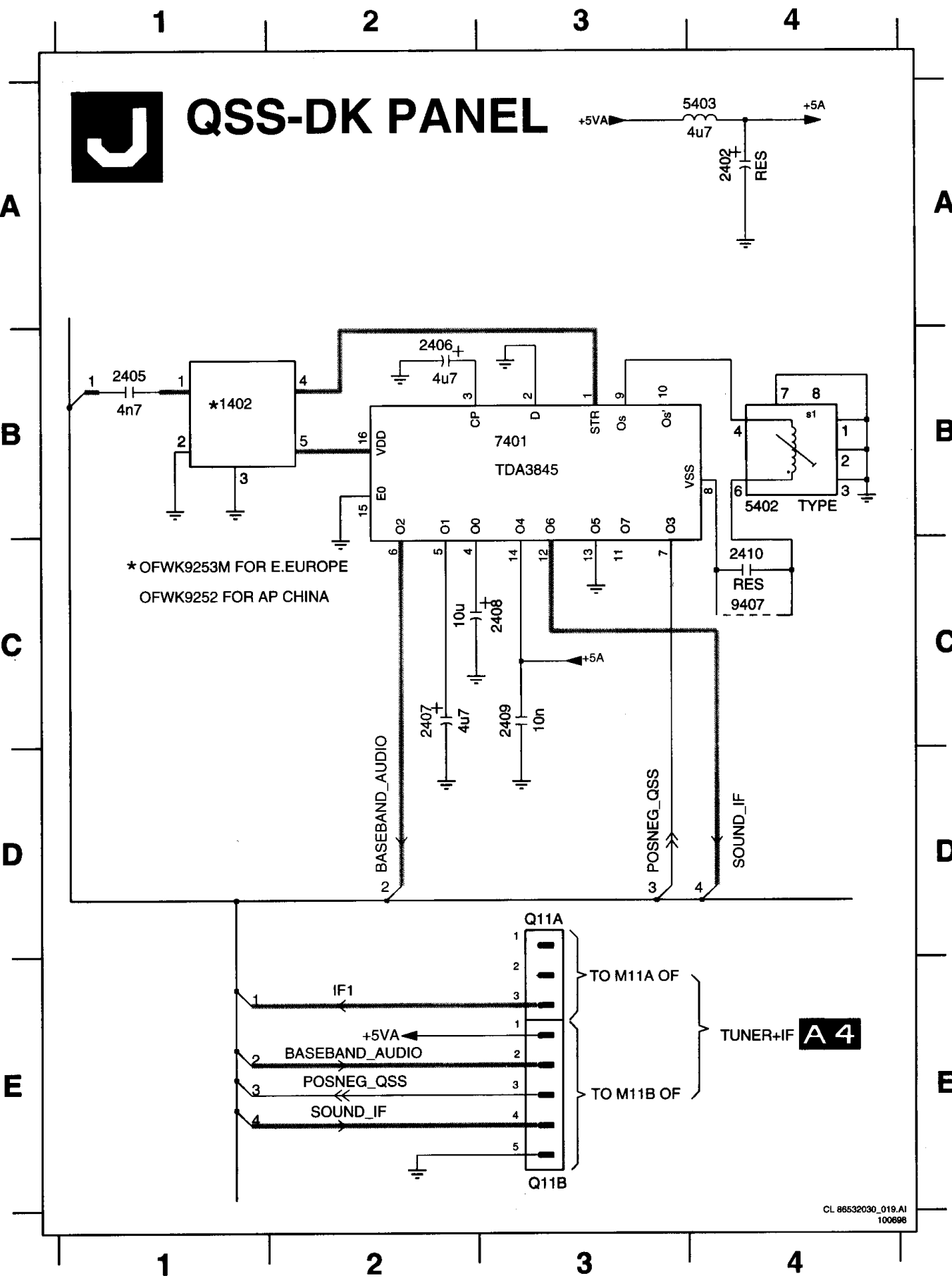
PCB Coml

- F15 B5    1900 B1    2900 B3    2902 A2    2995 B3    3901 C2    3996 C2    5901 B4    5903 C4    6993 A4    9994 B2
- F17 B1    1990 C2    2901 C2    2903 B4    3900 B2    3904 B4    5900 B2    5902 C4    6919 B3    9993 B2



* ITEM NO.	TAIWAN/KOREA	EUROPE	U.S./BRAZIL	AP/LATAM
	CISPR (F.R.)	CISPR (S.R.)	NON-CISPR (L.S.)	NON-CISPR
5900	DMF-2405	DMF-2405	-----	-----
5901	DMF-3515	-----	-----	-----
5902	-----	DMF-2830	DMF-2805	-----
5903	-----	-----	-----	DMF-2405
9993	-----	-----	JUMPER	JUMPER
9994	-----	-----	JUMPER	JUMPER

CL 86532030\_017 AI  
100698

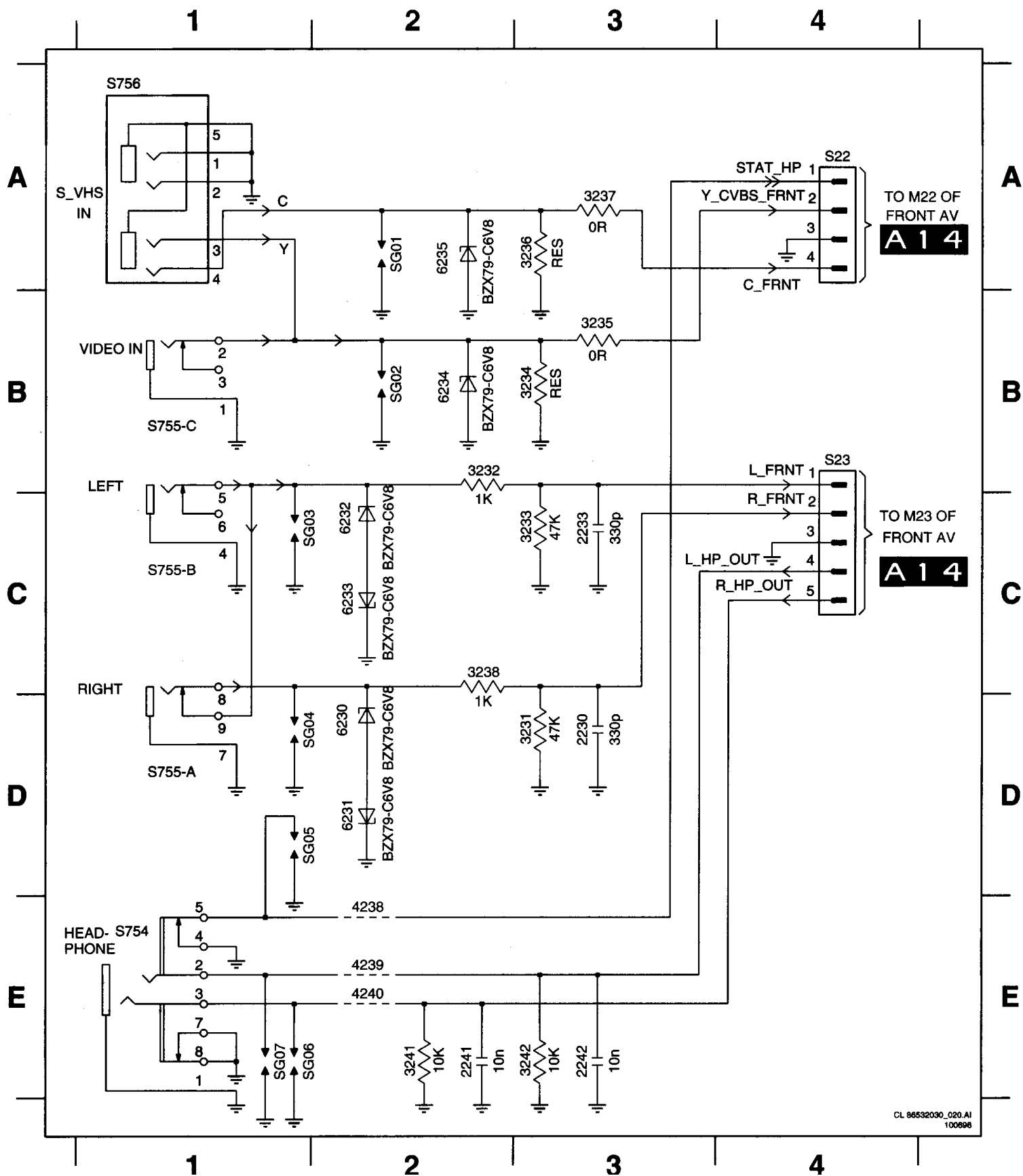


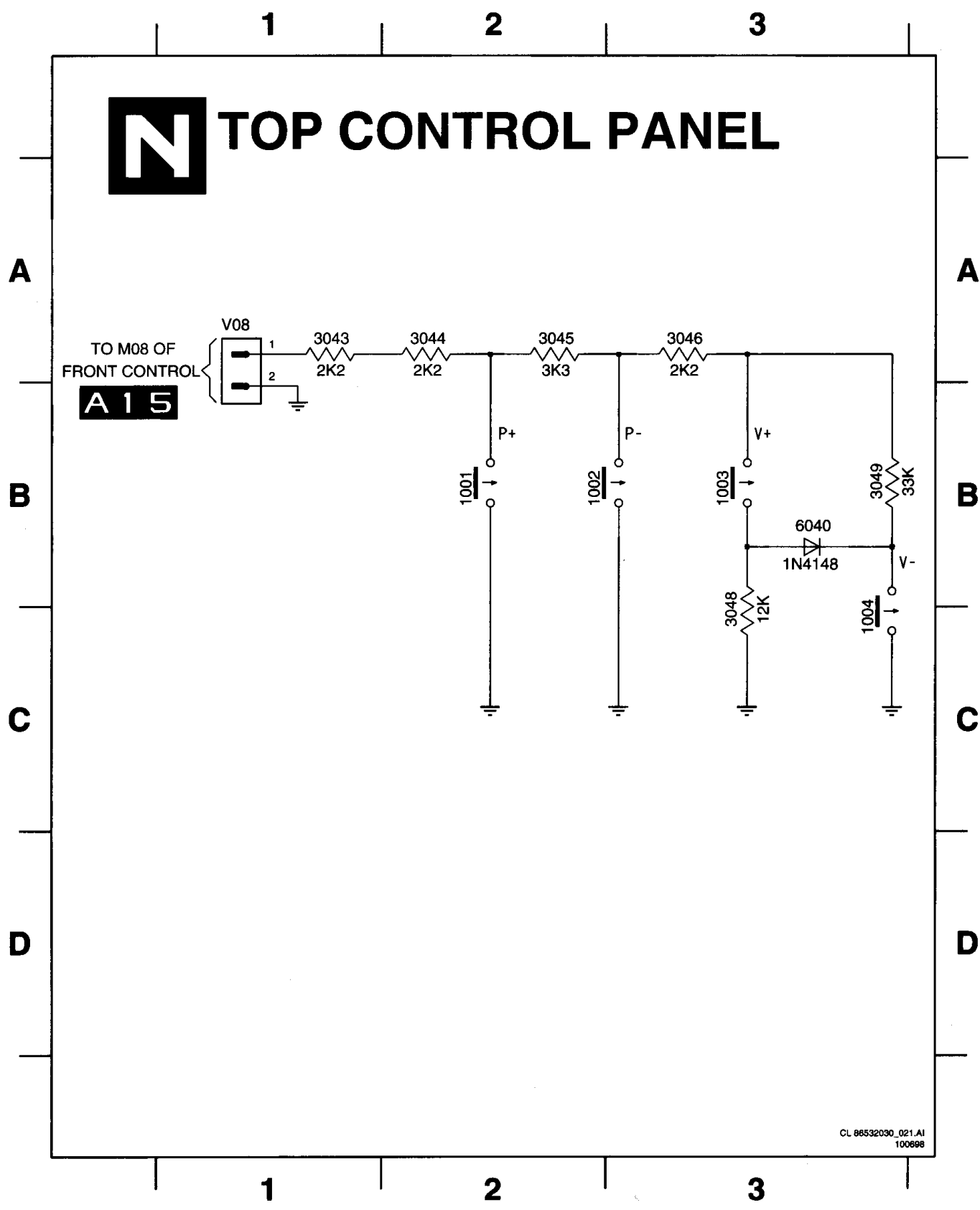
- 1402 B1
- 2402 A4
- 2405 B1
- 2406 B2
- 2407 D2
- 2408 C3
- 2409 C3
- 2410 C4
- 5402 B4
- 5403 A4
- 7401 B3
- 9407 C4
- Q11A D3
- Q11B E3

**A 4**

# M SIDE AV PANEL

S22 A4	2241 E2	3233 C3	3237 A3	4238 E2	6231 D2	6235 A2	S755-C B1	SG03 C1	SG07 E1
S23 B4	2242 E3	3234 B3	3238 C2	4239 E2	6232 C2	S754 E1	S756 A1	SG04 D1	
2230 D3	3231 D3	3235 B3	3241 E2	4240 E2	6233 C2	S755-A D1	SG01 A2	SG05 D1	
2233 C3	3232 B2	3236 A3	3242 E3	6230 D2	6234 B2	S755-B C1	SG02 B2	SG06 E1	

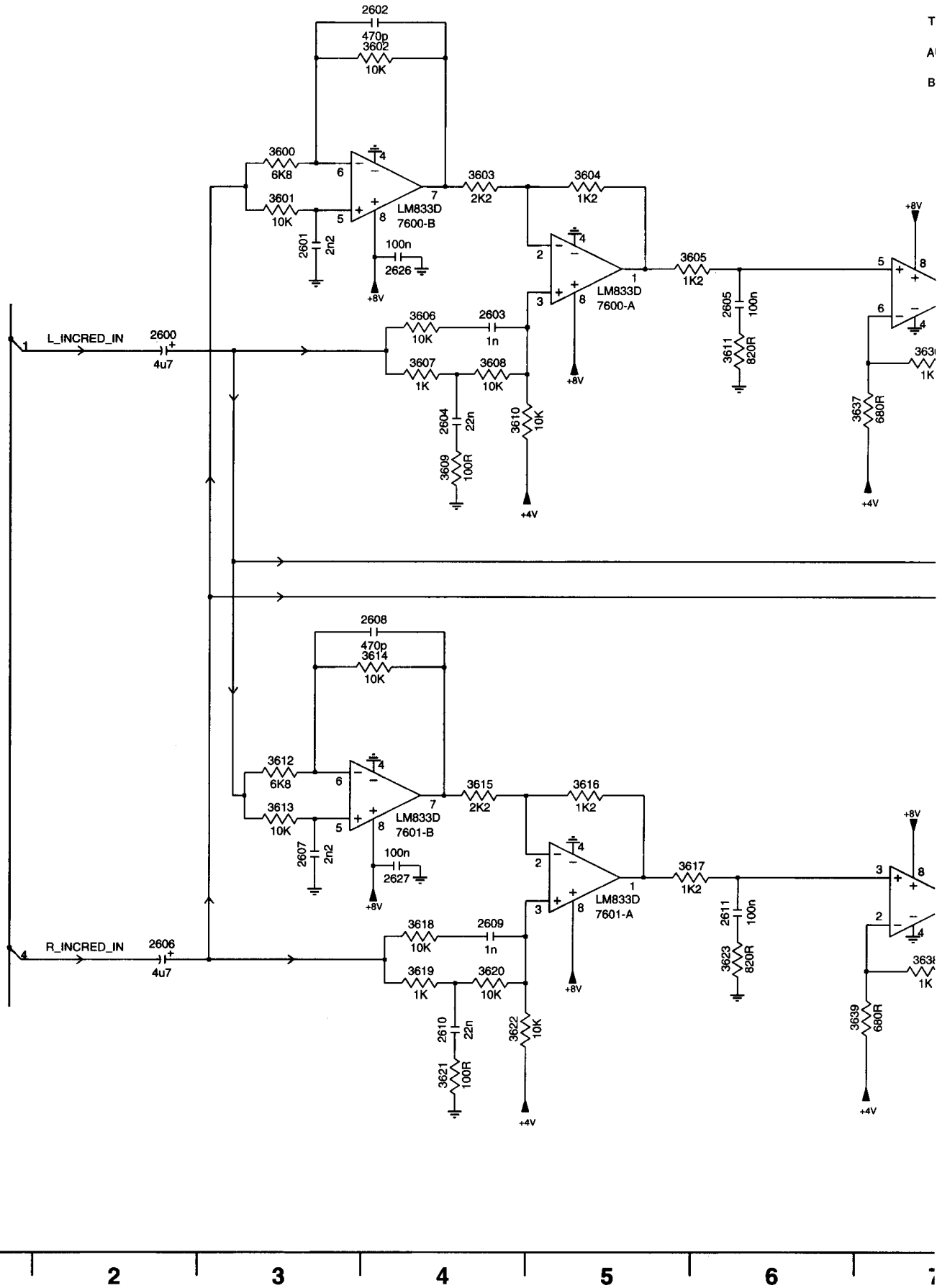


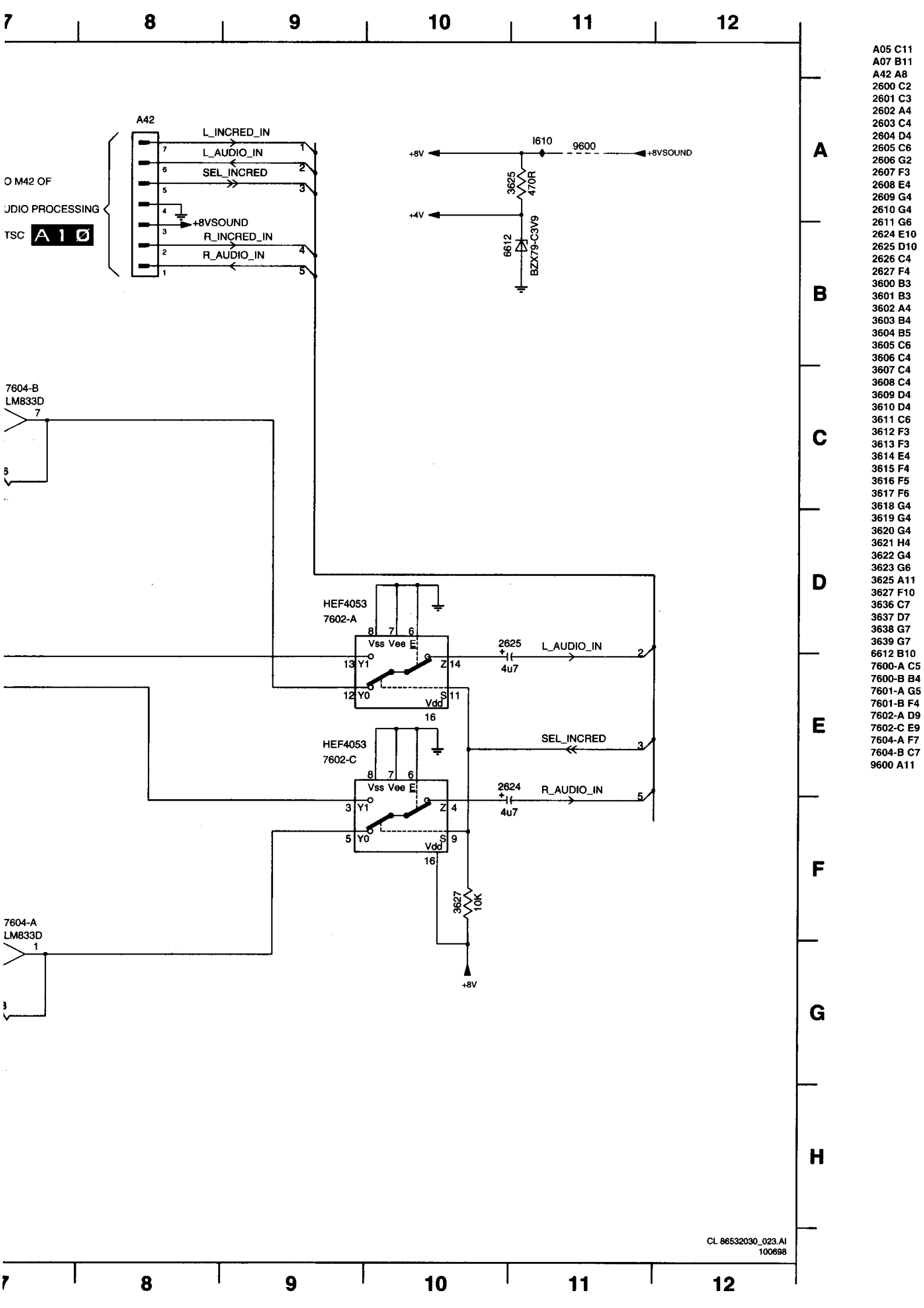


- V08 A1
- 1001 B2
- 1002 B2
- 1003 B3
- 1004 C3
- 3043 A1
- 3044 A2
- 3045 A2
- 3046 A3
- 3048 C3
- 3049 B3
- 6040 B3

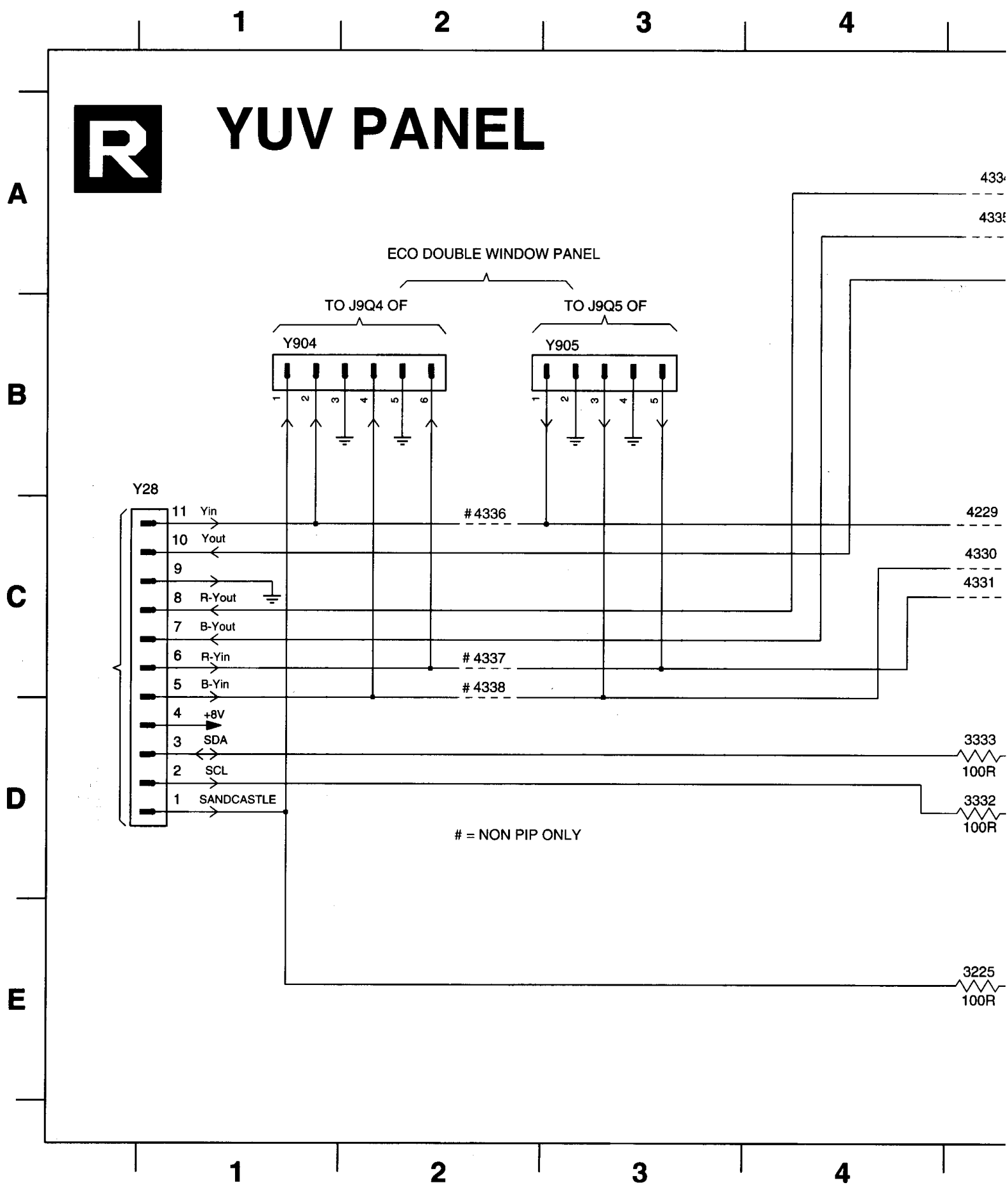


**Q INCREDIBLE SOUND**





- A05 C11
- A07 B11
- A42 A8
- 2600 C2
- 2601 C3
- 2602 A4
- 2603 C4
- 2604 D4
- 2605 C6
- 2606 G2
- 2607 F3
- 2608 E4
- 2609 G4
- 2610 G4
- 2611 G6
- 2624 E10
- 2625 D10
- 2626 C4
- 2627 F4
- 3600 B3
- 3601 B3
- 3602 A4
- 3603 B4
- 3604 B5
- 3605 C6
- 3606 C4
- 3607 C4
- 3608 C4
- 3609 D4
- 3610 D4
- 3611 C6
- 3612 F3
- 3613 F3
- 3614 E4
- 3615 F4
- 3616 F5
- 3617 F6
- 3618 G4
- 3619 G4
- 3620 G4
- 3621 H4
- 3622 G4
- 3623 G6
- 3625 A11
- 3627 F10
- 3636 C7
- 3637 D7
- 3638 G7
- 3639 G7
- 6612 B10
- 7600-A C5
- 7600-B B4
- 7601-A G5
- 7601-B F4
- 7602-A D9
- 7602-C E9
- 7604-A F7
- 7604-B C7
- 9600 A11



5 6 7 8

A

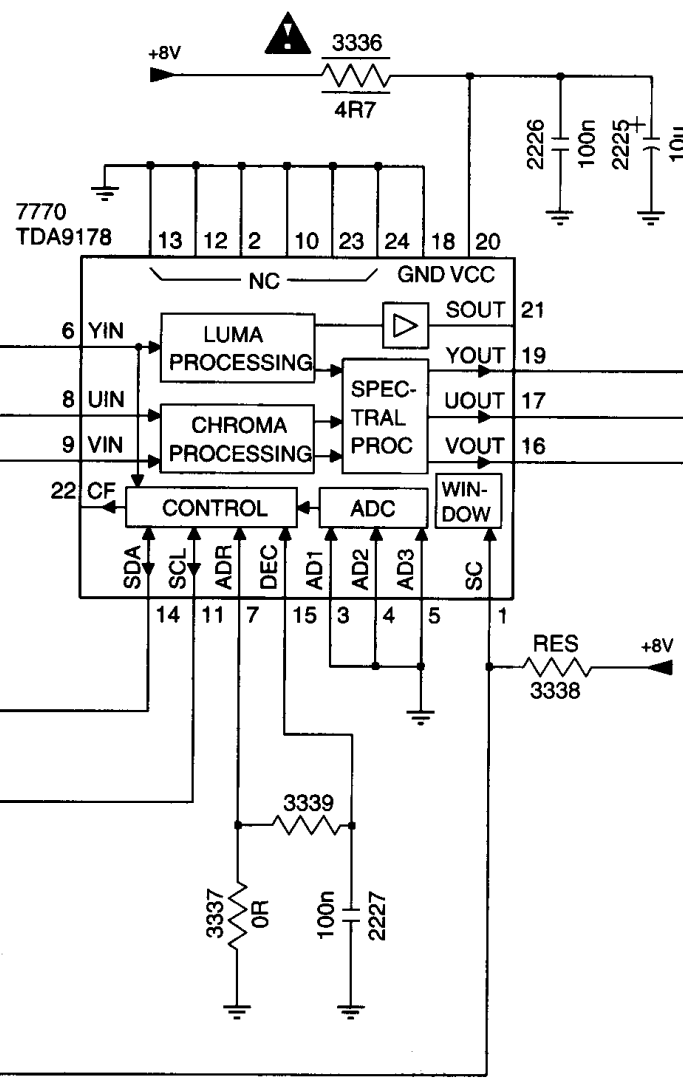
B

C

D

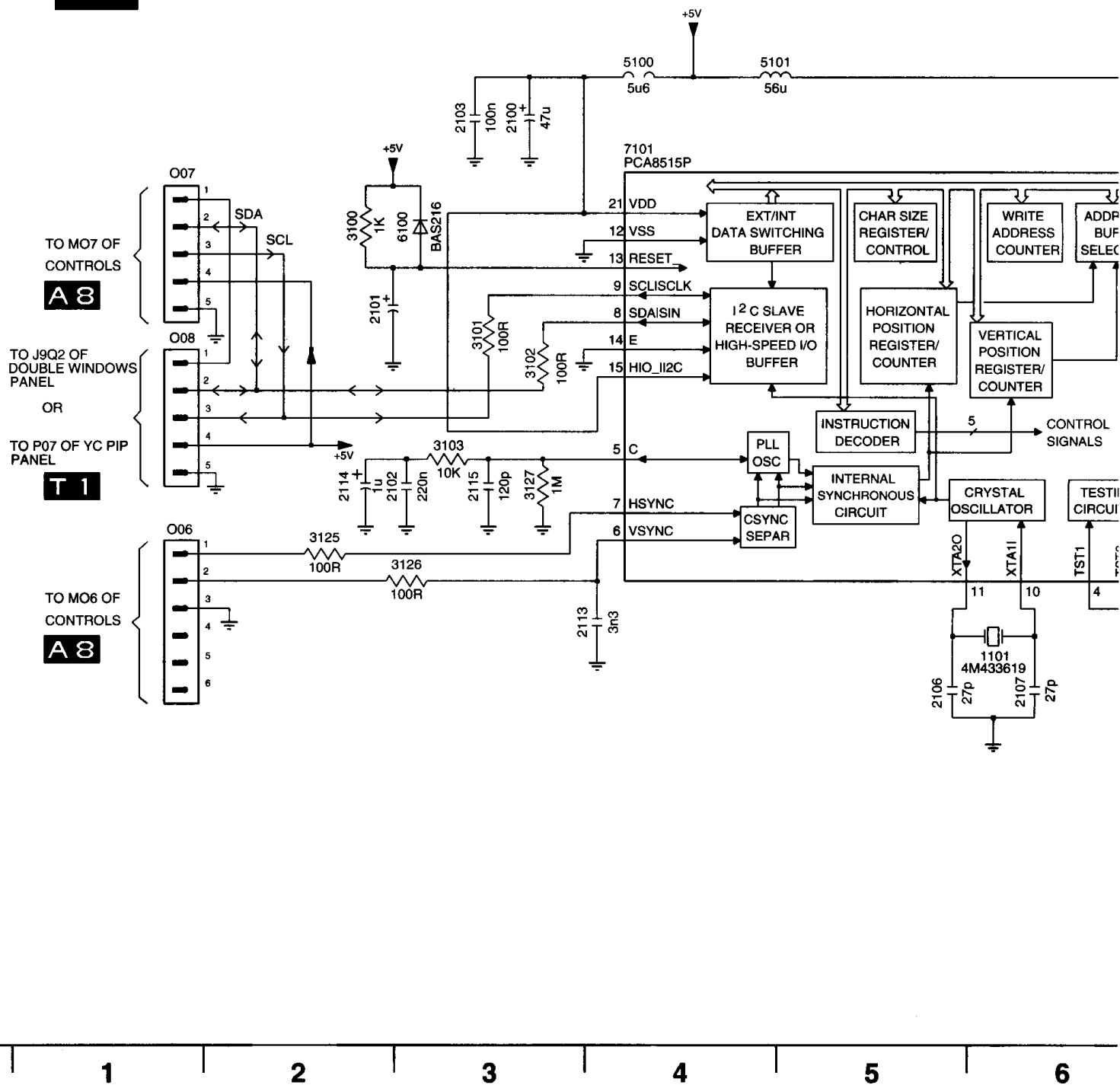
E

- Y28 B1
- 2225 B8
- 2226 B8
- 2227 D7
- 3225 E5
- 3332 D5
- 3333 D5
- 3336 B7
- 3337 D7
- 3338 D8
- 3339 D7
- 4229 C5
- 4330 C5
- 4331 C5
- 4334 A5
- 4335 A5
- 4336 C2
- 4337 C2
- 4338 C2
- 7770 B6
- Y904 B1
- Y905 B3



5 6 7 8

# OSD PANEL



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A

B

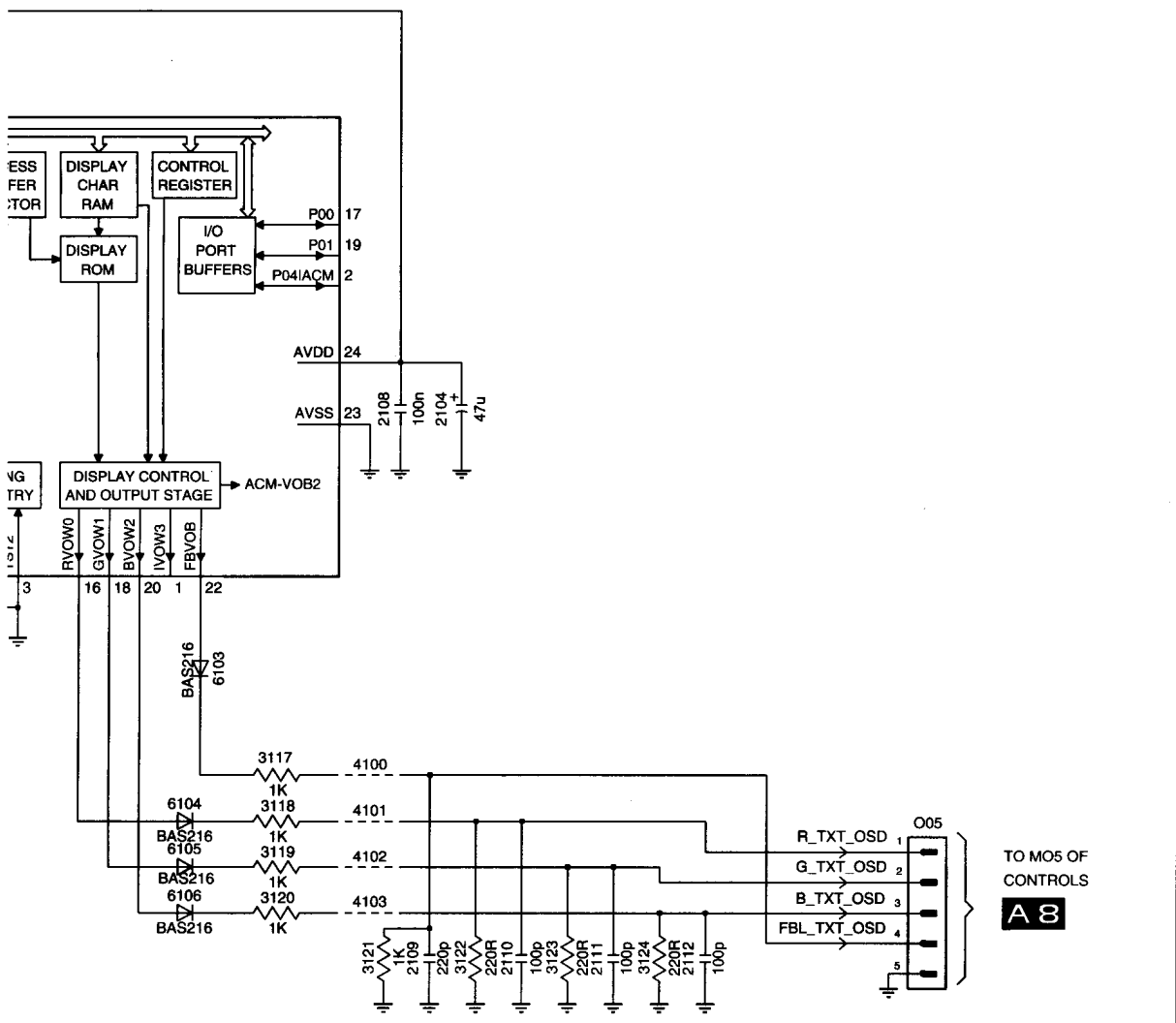
C

D

E

F

- O05 E11
- O06 D1
- O07 B1
- O08 C1
- 1101 E6
- 2100 B3
- 2101 C2
- 2102 D3
- 2103 B3
- 2104 C8
- 2106 E5
- 2107 E6
- 2108 C8
- 2109 F8
- 2110 F9
- 2111 F9
- 2112 F10
- 2113 D4
- 2114 D2
- 2115 D3
- 3100 B2
- 3101 C3
- 3102 C3
- 3103 C3
- 3117 E8
- 3118 E8
- 3119 E8
- 3120 F8
- 3121 F8
- 3122 F8
- 3123 F9
- 3124 F9
- 3125 D2
- 3126 D3
- 3127 D3
- 4100 E8
- 4101 E8
- 4102 E8
- 4103 F8
- 5100 A4
- 5101 A4
- 6100 B3
- 6103 E7
- 6104 E7
- 6105 E7
- 6106 F7
- 7101 B4



TO MOS OF  
CONTROLS  
**A8**

7

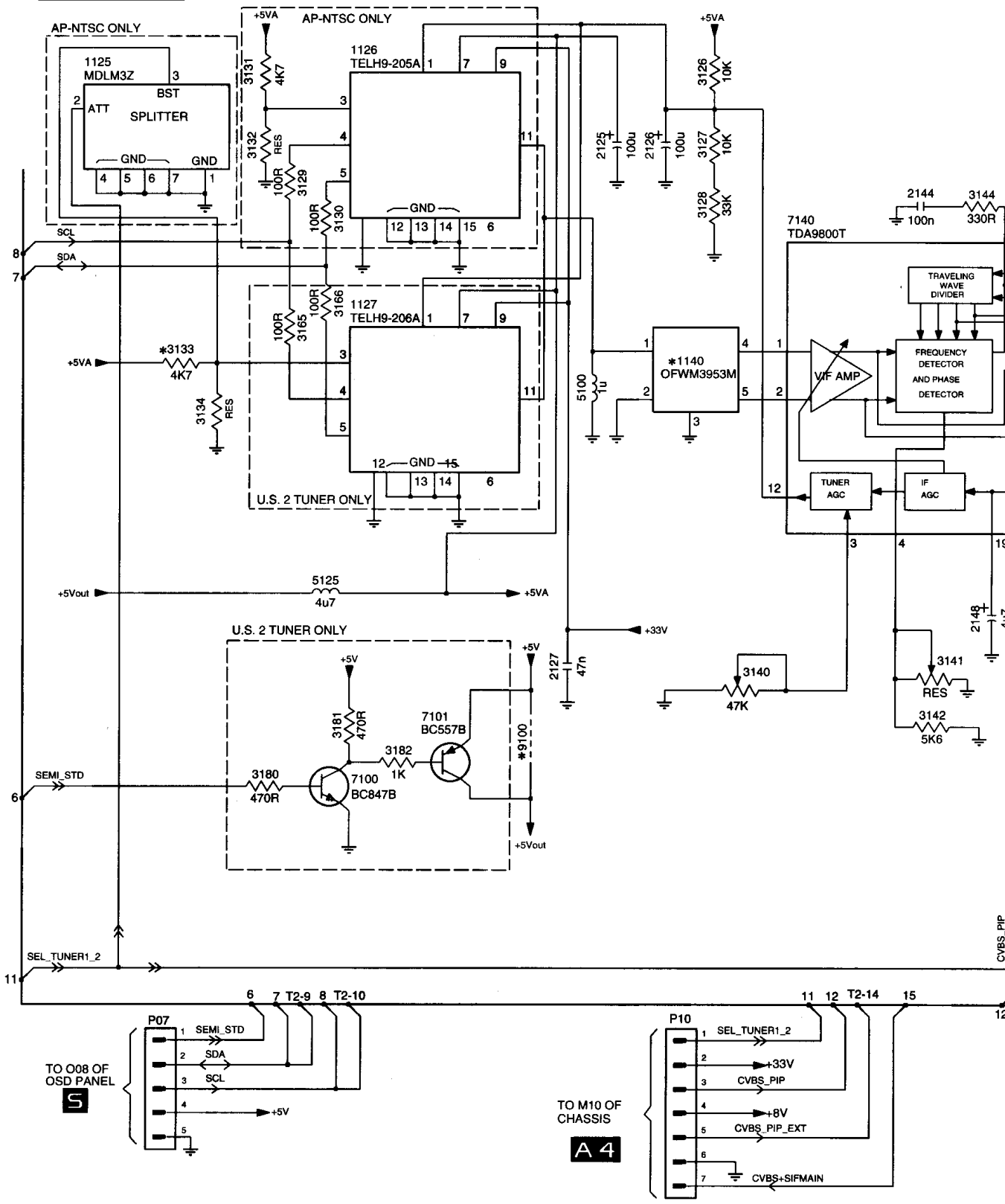
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9

10

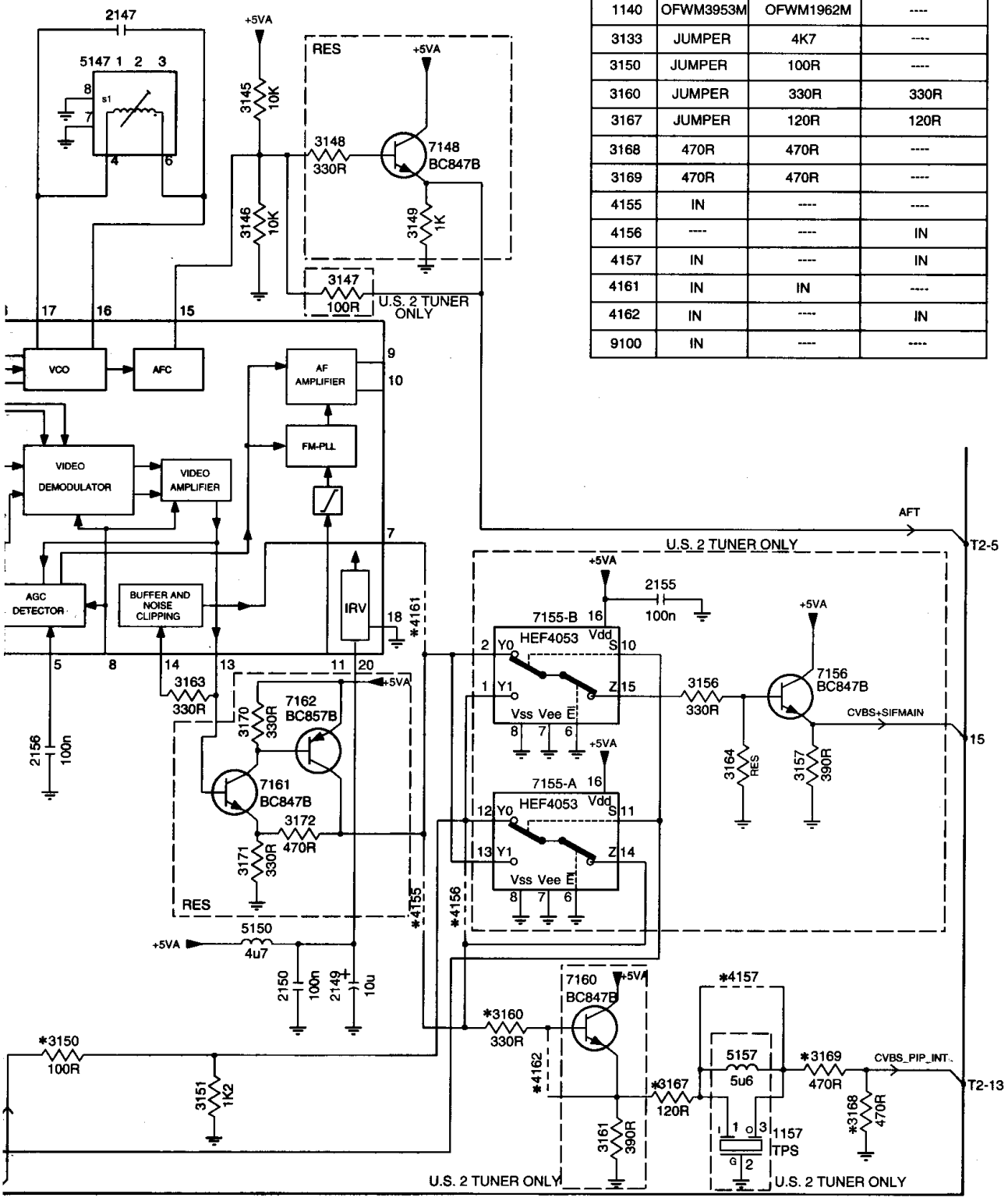
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# T1 YC PIP PANEL 2ND FRONT END



P07 G2  
P10 G5  
1125 A2  
1126 A3  
1127 C3  
1140 C5  
1157 G11  
2125 B5  
2126 B5  
2127 E4  
2144 B6  
2147 A8  
2148 E7  
2149 F9  
2150 F9  
2155 D10  
2156 E7  
3126 A5  
3127 B5  
3128 B5  
3129 B3  
3130 B3  
3131 A3  
3132 B3  
3133 C2  
3134 C2  
3140 E6  
3141 E7  
3142 E7  
3144 B7  
3145 A8  
3146 B8  
3147 B9  
3148 B9  
3149 B9  
3150 F7  
3151 F8  
3156 D11  
3157 E11  
3160 F10  
3161 G10  
3163 D8  
3164 E11  
3165 C3  
3166 C3  
3167 F11  
3168 G11  
3169 F11  
3170 E8  
3171 E8  
3172 E9  
3180 F3  
3181 E3  
3182 E3  
4155 E9  
4156 E9  
4157 F11  
4161 D9  
4162 F10  
5100 C4  
5125 D3  
5147 A7  
5150 F8  
5157 F11  
7100 F3  
7101 E4  
7140 B6  
7148 B9  
7155-A E10  
7155-B D10  
7156 D11  
7160 F10  
7161 E8  
7162 D8  
9100 E4

* ITEM	AP-NTSC	U.S. 2 TUNER	U.S. NON TUNER
1140	OFWM3953M	OFWM1962M	----
3133	JUMPER	4K7	----
3150	JUMPER	100R	----
3160	JUMPER	330R	330R
3167	JUMPER	120R	120R
3168	470R	470R	----
3169	470R	470R	----
4155	IN	----	----
4156	----	----	IN
4157	IN	----	IN
4161	IN	IN	----
4162	IN	----	IN
9100	IN	----	----



A

B

C

D

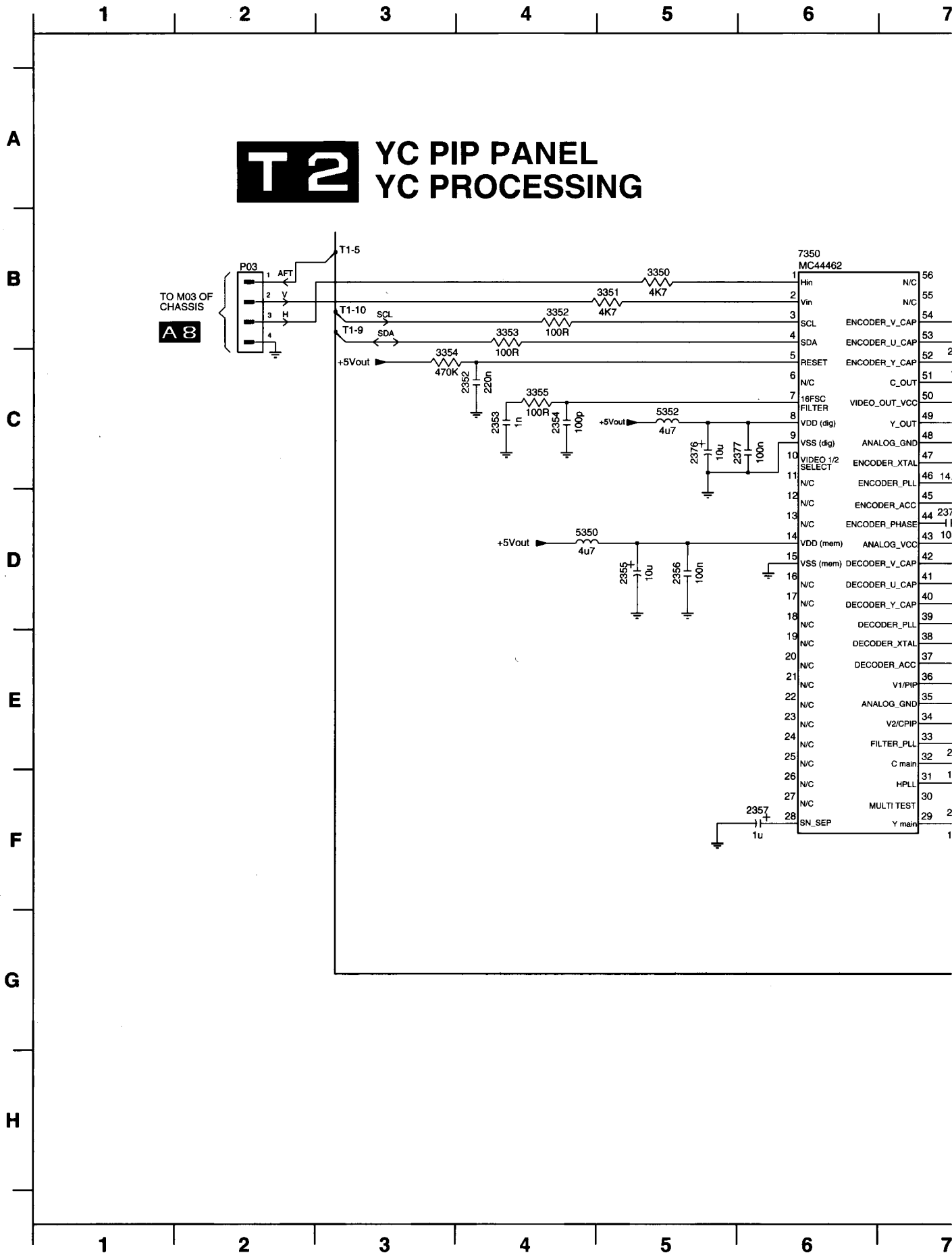
E

F

G

H





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A

B

C

D

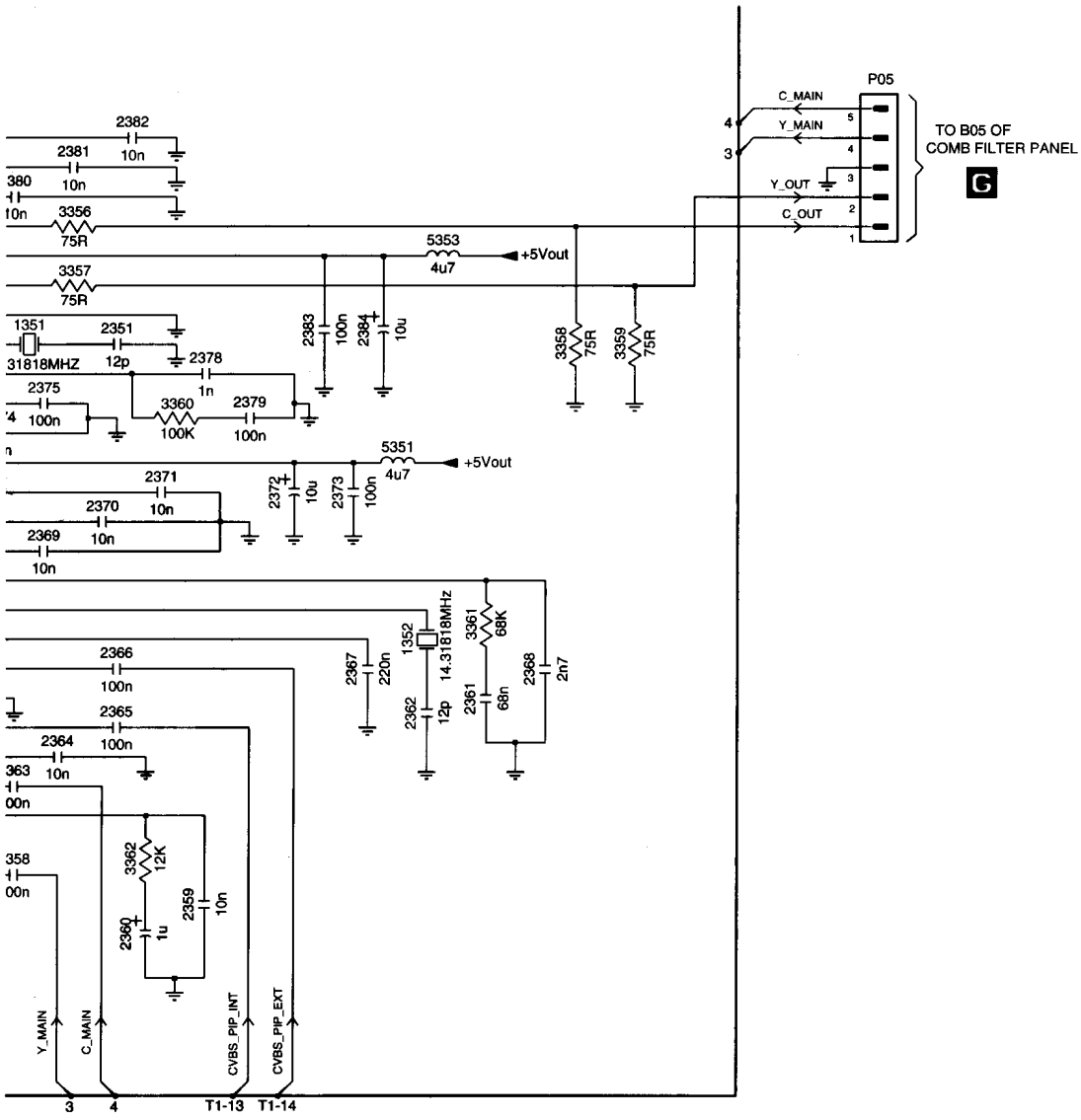
E

F

G

H

- P03 B2
- P05 B11
- 1351 C7
- 1352 E9
- 2351 C8
- 2352 C4
- 2353 C4
- 2354 C4
- 2355 D5
- 2356 D5
- 2357 F6
- 2358 F7
- 2359 F8
- 2360 F8
- 2361 E9
- 2362 E9
- 2363 E7
- 2364 E7
- 2365 E8
- 2366 E8
- 2367 E9
- 2368 E10
- 2369 D7
- 2370 D7
- 2371 D8
- 2372 D8
- 2373 D9
- 2374 D7
- 2375 D7
- 2376 C5
- 2377 C6
- 2378 C8
- 2379 D8
- 2380 C7
- 2381 B7
- 2382 B8
- 2383 C9
- 2384 C9
- 3350 B5
- 3351 B5
- 3352 B4
- 3353 B4
- 3354 C3
- 3355 C4
- 3356 C7
- 3357 C7
- 3358 C10
- 3359 C10
- 3360 D8
- 3361 E9
- 3362 F8
- 5350 D4
- 5351 D9
- 5352 C5
- 5353 C9
- 7350 B6



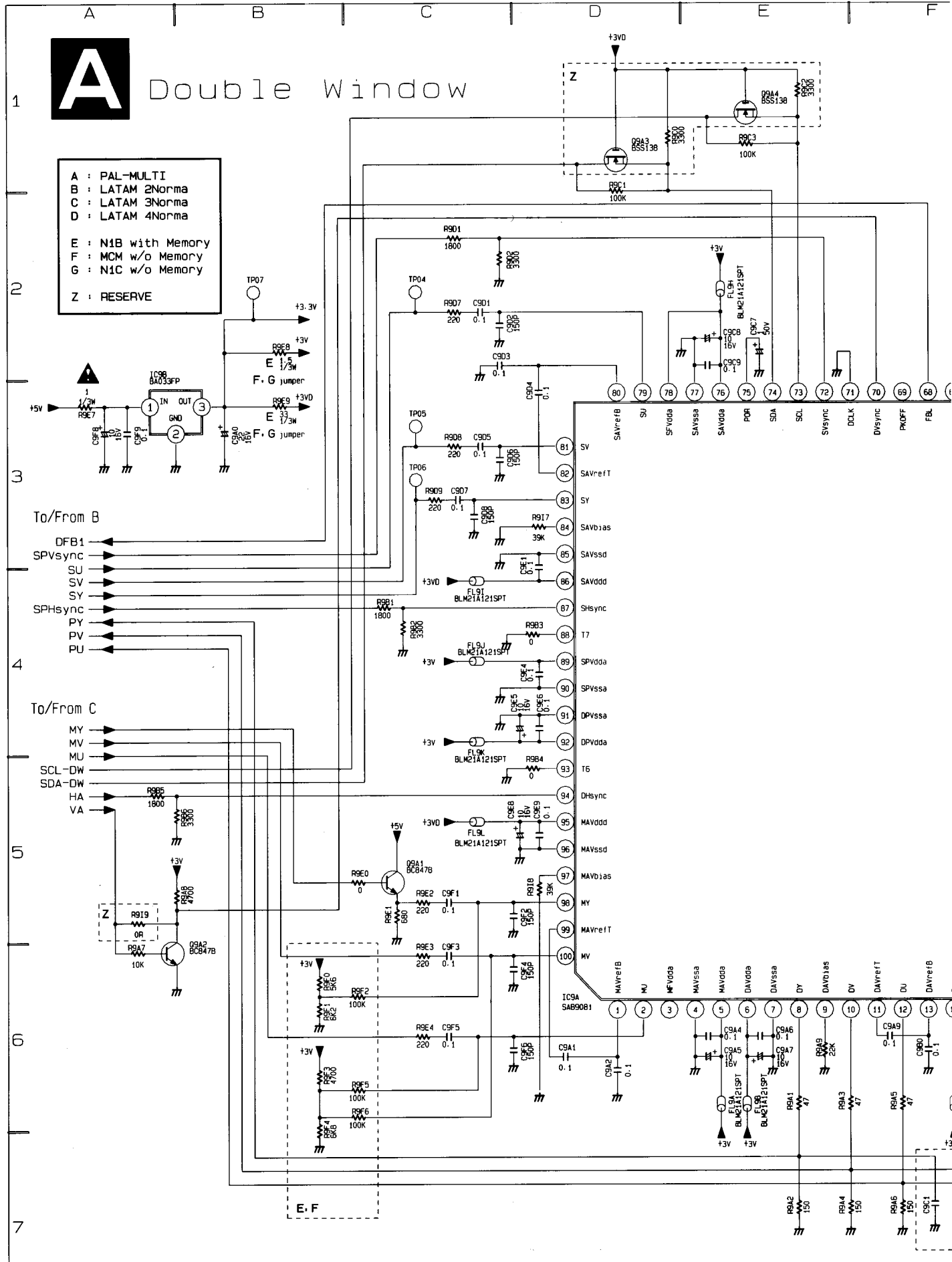
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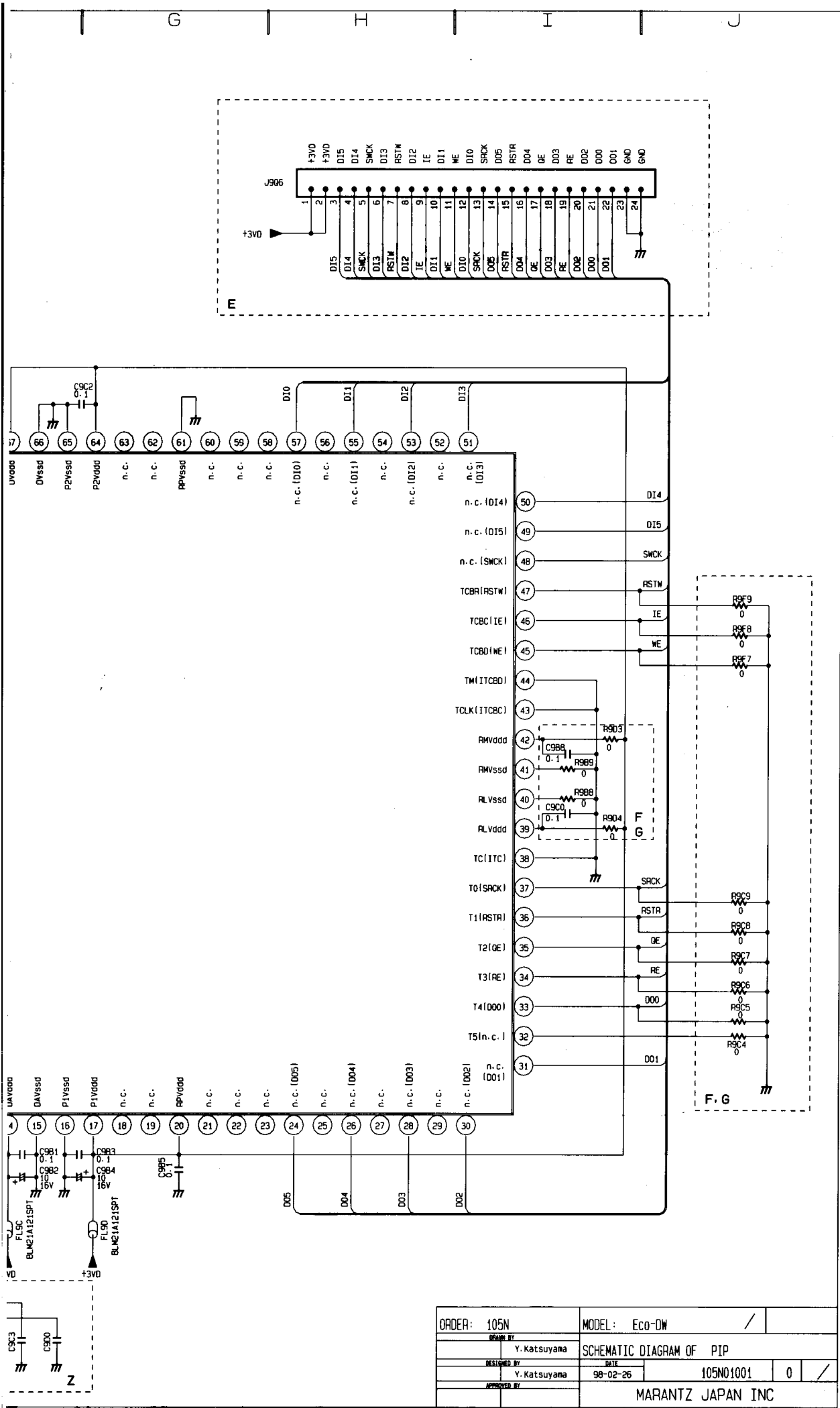
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10

11

12

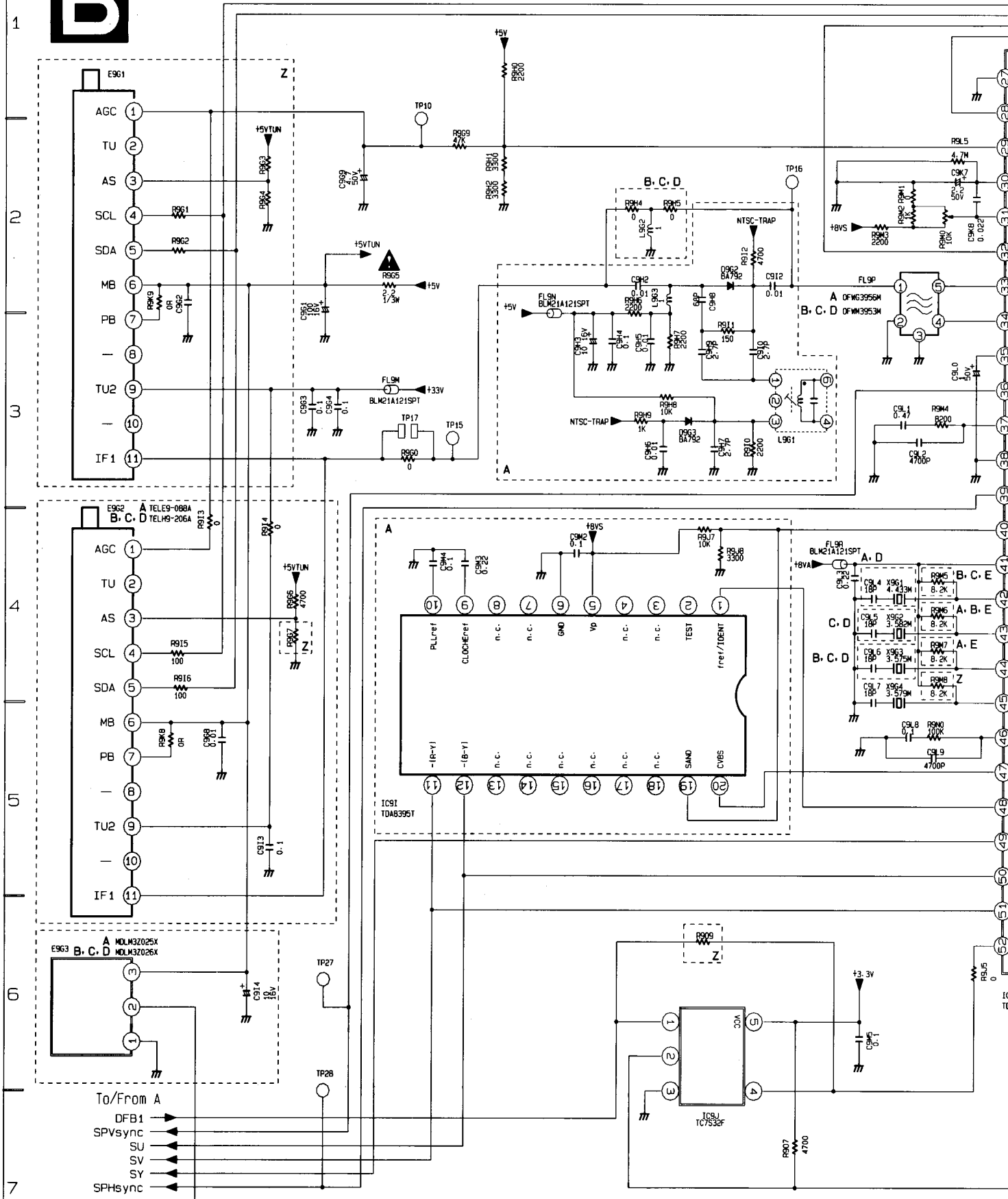


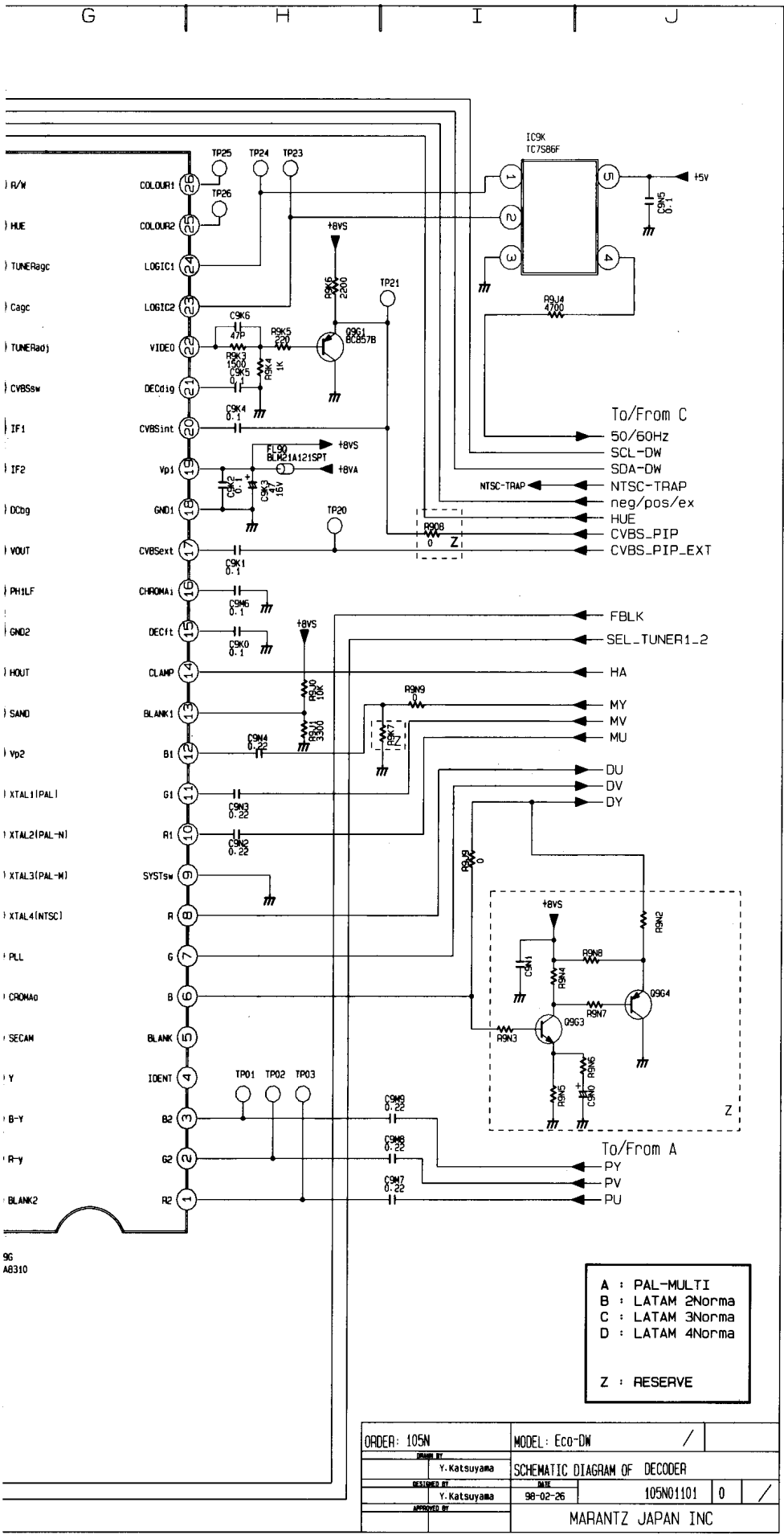


C9B8	I4	TP06	C3
C9C0	I4	TP05	C3
IC9A	D6	R9B3	D4
R9E7	A3	TP04	C2
C9F8	A3	R9A2	E7
C9A0	B3	R9A4	F7
C9D0	F7	R9A6	F7
C9C3	F7	C9D6	C3
C9F9	A3	C9D8	C3
C9F6	D6	C9A7	E6
C9A4	E6	R9E1	C5
C9A9	F6	Q9A1	C5
C9B0	F6	C9F3	C6
FL9A	E6	C9F1	C5
C9A5	E6	R9E3	C6
C9B3	F6	C9A1	D6
R9D3	I4	C9B1	F6
R9B9	I4	R9E2	C5
C9C9	E3	C9D7	C3
C9C8	E2	C9D5	C3
R9A9	E6	R9D8	C3
C9C2	F2	R9D9	C3
C9E9	D5	C9F5	C6
R9I8	D5	R9E4	C6
J9Q6	H1	C9D2	C2
C9E4	D4	FL9C	F6
IC9B	B3	C9B2	F6
FL9J	C4	C9A2	D6
C9B5	G6	C9D1	C2
R9B1	C4	R9D7	C2
R9B2	C4	R9B5	A5
C9C7	E2	R9B6	B5
R9B8	I4	Q9A2	A6
C9E6	D4	R9A8	B5
TP07	B2	R9B4	D5
C9E5	D4	R9D2	C2
FL9D	G6	R9F2	C6
R9D4	I5	R9F5	C6
R9C4	J6	R9F6	C7
R9C5	J5	R9F4	B7
C9B4	F6	R9F3	B6
C9E8	D5	R9F1	B6
FL9K	C5	R9F0	B6
FL9L	C5	R9C8	J5
R9C6	J5	R9C9	J5
R9C7	J5	R9F7	J4
C9C1	F7	R9F8	J4
FL9H	E2	R9F9	J3
C9F2	D5	R9E8	B2
C9E1	D4	R9E9	B3
FL9I	C4	R9A7	A6
R9A1	E6	Q9A3	D1
C9A6	E6	Q9A4	E1
R9A3	F6	R9C1	D2
C9F4	D6	R9C3	E1
C9D4	D3	R9C0	D1
FL9B	E6	R9C2	E1
C9D3	C3	R9D1	C2
R9E0	C5	R9I7	D3
R9A5	F6	R9I9	A5

ORDER: 105N	MODEL: Eco-DW
DESIGNED BY: Y. Katsuyama	DATE: 98-02-26
DESIGNED BY: Y. Katsuyama	DATE: 98-02-26
APPROVED BY:	105ND1001 0 /
MARANTZ JAPAN INC	

# B Double Window





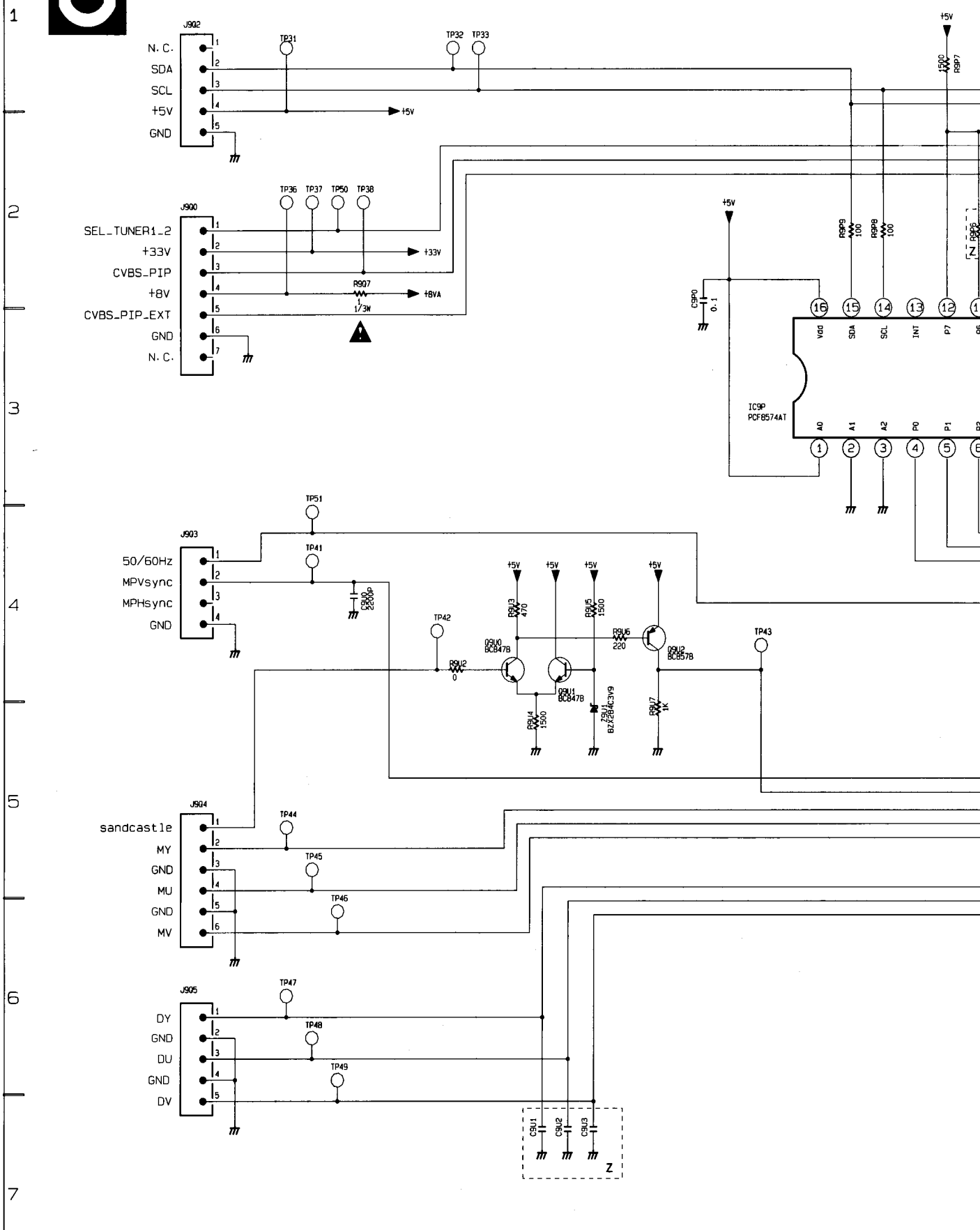
IC9J	E6	R9H6	D3
R9G9	C2	D9G2	E2
R9I3	B4	C9H8	E2
R9N0	F5	C9H9	E3
C9M5	F6	TP27	B6
IC9G	H6	C9I0	E3
R9N2	J5	C9H7	E3
R9H2	D2	C9H6	D3
R907	E7	D9G3	E3
TP01	H5	R9H9	D3
R9G5	C2	R9H8	D3
R9G1	B2	R9I0	E3
R9K3	H2	R9I1	E3
C9K6	H2	C9I2	E2
C9K5	H2	TP10	C2
C9K4	H2	FL9P	F3
C9K0	H3	R9J5	F6
C9K1	H3	TP15	C3
TP02	H5	C9K7	F2
R9K5	H2	R9L5	F2
Q9G1	H2	R9M1	F2
L9G1	E3	R9M0	F2
R9M3	F2	C9K8	F2
R9K6	H2	R9M2	F2
FL9N	D3	C9M6	H3
C9K2	H3	R9I5	B4
C9K3	H3	R9I6	B5
FL9Q	H3	R9G7	B4
R9N9	I4	R9I4	B4
X9G1	F4	C9I3	B5
X9G2	F4	R9G6	B4
X9G3	F4	IC9I	E4
X9G4	F5	E9G3	A6
C9L7	F5	TP21	I2
C9L6	F4	TP20	H3
C9L5	F4	C9G8	B5
C9L4	F4	C9M4	C4
R9J7	E4	C9M3	C4
R9H4	D2	C9M2	D4
R9H5	D2	E9G1	A2
L9G2	D2	E9G2	A4
R9M6	F4	C9I4	B6
R9M7	F4	C9L8	F5
R9G2	B2	R909	E6
R9M8	F4	TP25	H1
R9M5	F4	TP26	H2
C9L3	F4	TP24	H1
FL9R	F4	TP23	H1
C9L0	F3	R9H1	D2
R9M4	F3	R9H0	D1
R9J8	E4	IC9K	I1
FL9M	C3	C9N4	H4
R9K9	A3	R9J0	H4
R9G4	B2	R9J1	H4
R9G3	B2	R9K7	I4
C9G4	C3	C9N3	H4
C9G2	B3	Q9G3	I5
C9G1	B3	R9K4	H2
C9L2	F3	Q9G4	J5
R908	I3	R9N3	I5
TP03	H5	C9N2	H4
C9G3	B3	R9J9	I4
R9G0	C3	R9N5	I5
TP28	B7	R9N6	J5
C9L1	F3	R9N8	J5
C9L9	F5	R9N7	J5
C9G9	C2	R9N4	I5
C9H2	D2	C9M8	I6
C9H5	D3	C9M7	I6
R9H7	E3	C9M9	I5
R9I2	E2	R9J4	I2
L9G3	E3	C9N1	I5
TP16	E2	C9N0	J5
C9H3	D3	C9N5	J1
C9H4	D3	R9K8	B5

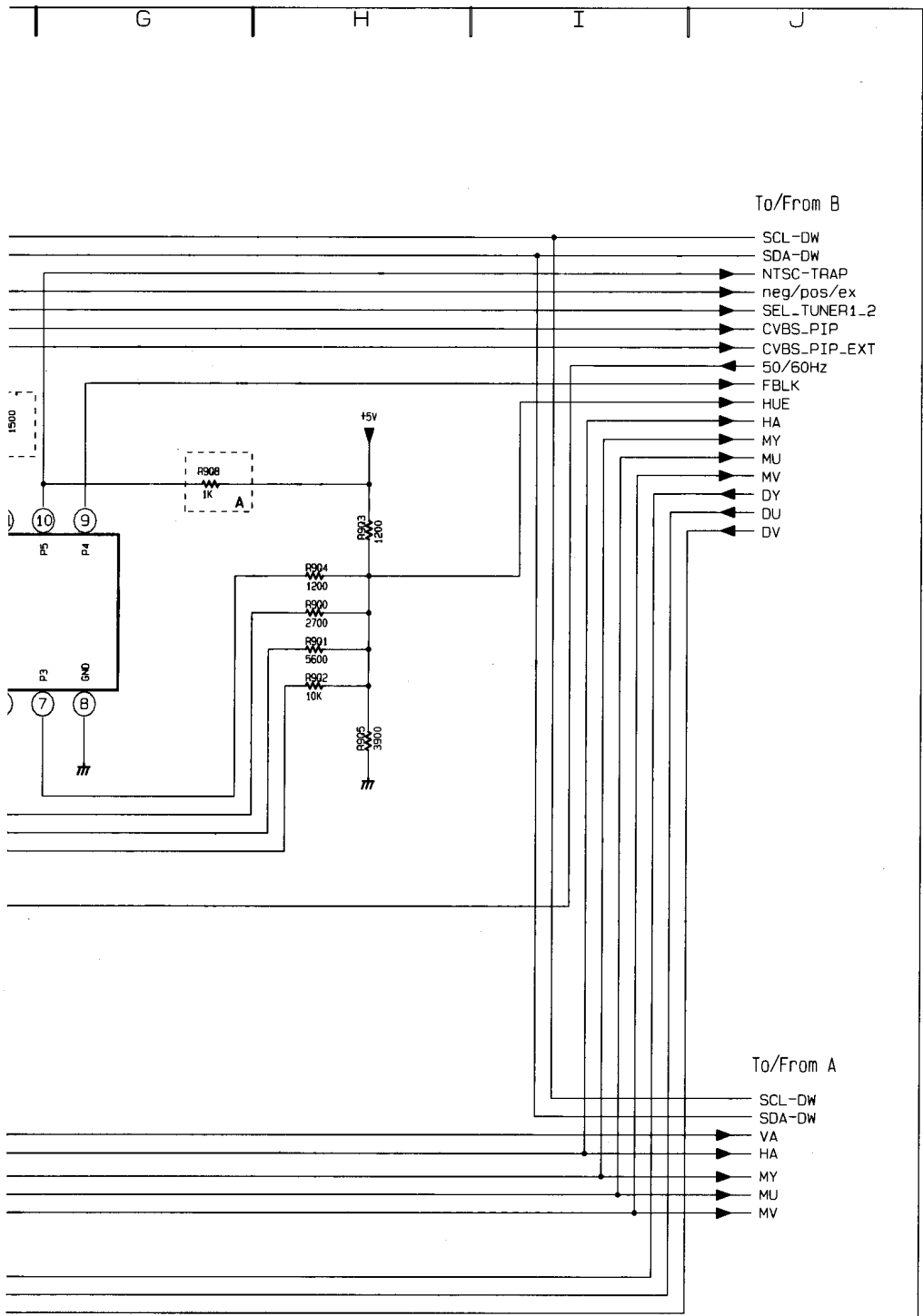
A : PAL-MULTI  
 B : LATAM 2Norma  
 C : LATAM 3Norma  
 D : LATAM 4Norma  
 Z : RESERVE

ORDER: 105N	MODEL: Eco-DW	/
DESIGNED BY Y. Katsuyama	SCHEMATIC DIAGRAM OF DECODER	
DESIGNED BY Y. Katsuyama	DATE 98-02-26	105N0101 0 /
APPROVED BY	MARANTZ JAPAN INC	



Double Window





- R9U2 C4
- TC9P E3
- R9Q3 H3
- R9Q4 H3
- R9Q5 H3
- R9Q0 H3
- R9Q1 H3
- J9Q2 B2
- R9Q2 H3
- J9Q4 B5
- TP51 B4
- TP50 C2
- C9U3 D7
- R9P9 F2
- R9P8 F2
- J9Q3 B4
- C9U2 D7
- J9Q5 B6
- J9Q0 B3
- C9U1 D7
- TP47 B6
- TP48 B6
- TP49 C7
- TP44 B5
- TP45 B6
- TP46 C6
- TP36 B2
- TP37 B2
- TP32 C1
- TP33 C1
- TP41 B4
- TP42 C4
- R9Q8 G2
- R9Q7 C3
- C9U0 C4
- TP38 C2
- TP31 B1
- C9P0 E3
- R9P6 F2
- R9P7 F1
- TP43 E4
- Q9U0 C4
- Q9U1 D4
- Q9U2 D4
- R9U6 D4
- R9U3 D4
- R9U5 D4
- R9U4 D5
- R9U7 D5
- Z9U1 D5

A : PAL-MULTI  
 B : LATAM 2Norma  
 C : LATAM 3Norma  
 D : LATAM 4Norma  
  
 Z : RESERVE

ORDER: 105N	MODEL: Eco-DW
DESIGNED BY: Y. Katsuyama	DATE: 98-02-26
DESIGNED BY: Y. Katsuyama	DATE: 98-02-26
APPROVED BY:	DATE:
MARANTZ JAPAN INC	

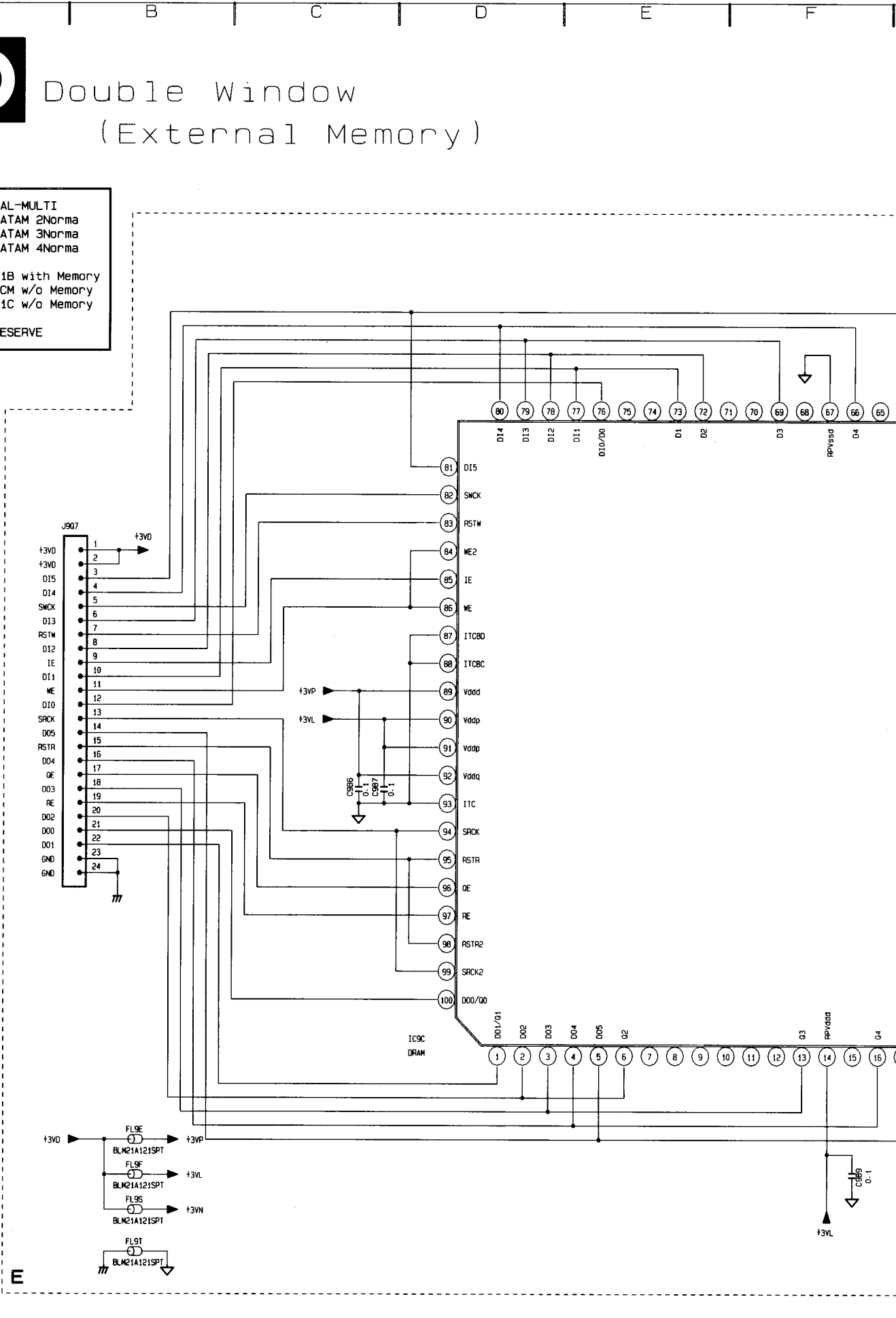


# D

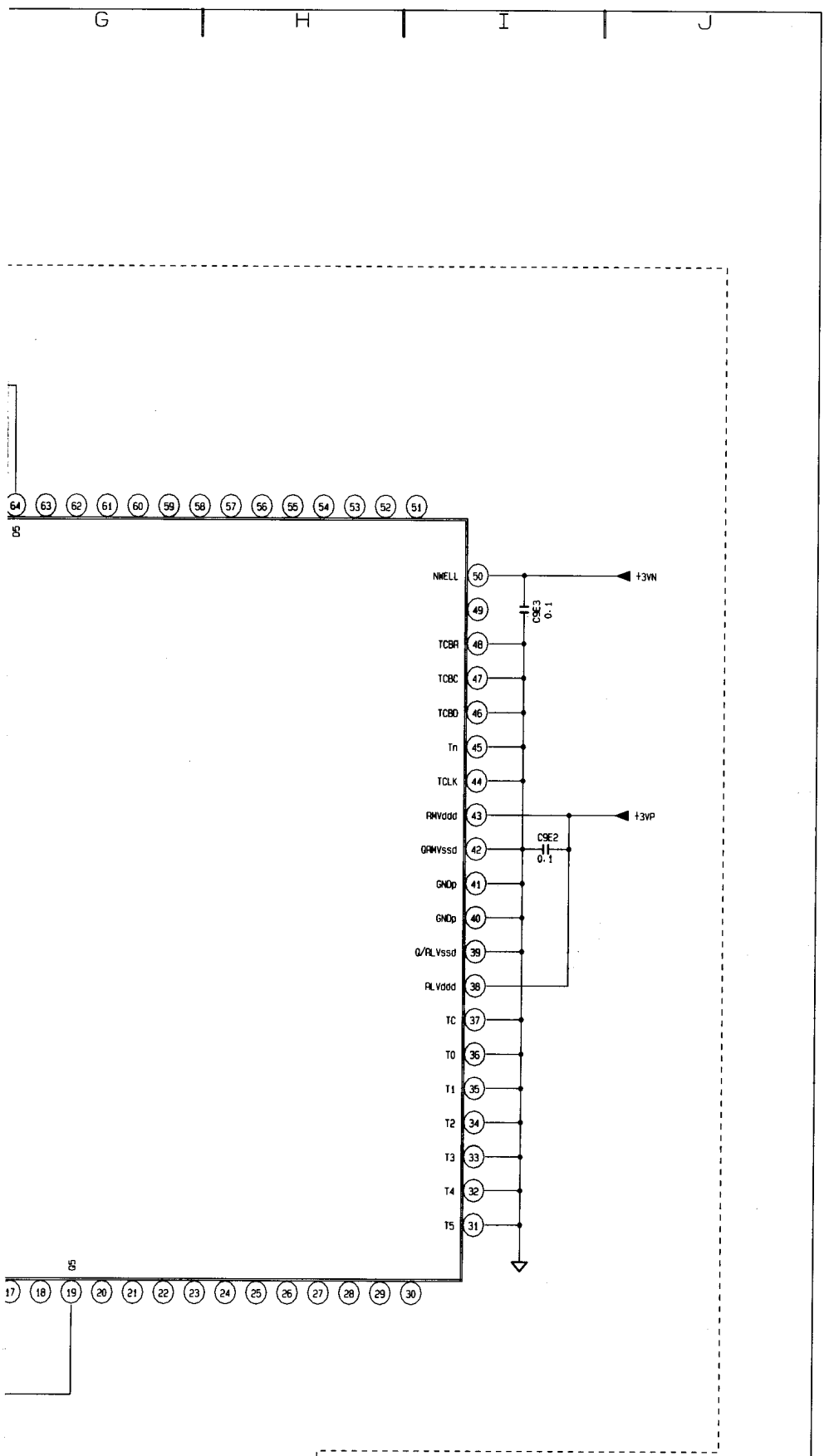
## Double Window (External Memory)

- A : PAL-MULTI
- B : LATAM 2Norma
- C : LATAM 3Norma
- D : LATAM 4Norma
  
- E : N1B with Memory
- F : MCM w/o Memory
- G : N1C w/o Memory
  
- Z : RESERVE

1  
2  
3  
4  
5  
6  
7



C9B6 C5  
 C9B7 C5  
 C9B9 F7  
 C9E2 I4  
 C9E3 I3  
 FL9E B6  
 FL9F B7  
 FL9S B7  
 FL9T B7  
 IC9C D6  
 J9Q7 B3

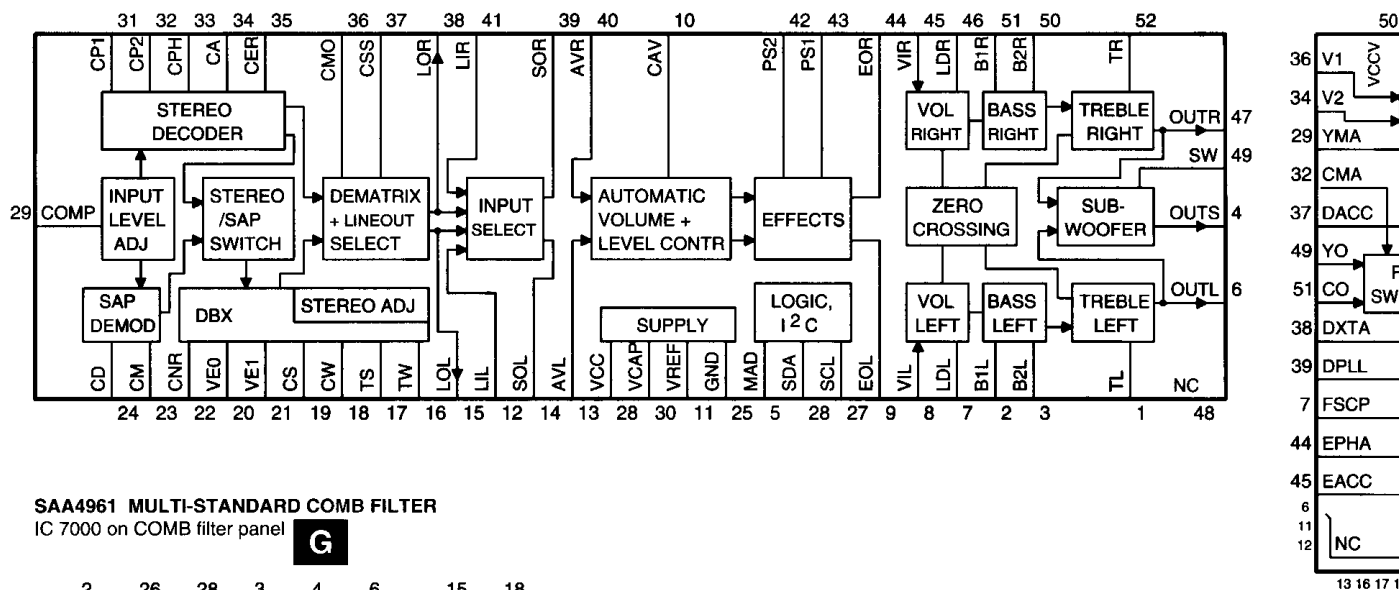


ORDER: 105N	MODEL: Eco-DW			
DESIGNED BY Y. Katsuyama	SCHEMATIC DIAGRAM OF PIP			
DESIGNED BY Y. Katsuyama	DATE 98-02-26	105N01301	0	/
APPROVED BY	MARANTZ JAPAN INC			

**TDA9855 IIC-BUS CONTROLLED BTSC STEREO/SAP DECODER AND AUDIO PROCESSOR**  
IC 7437 on Audio processing BTSC

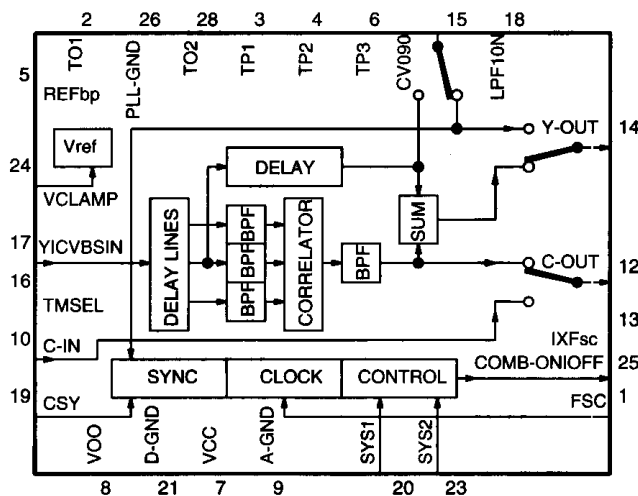
MC44462  
IC 7350 or

**A10**



**SAA4961 MULTI-STANDARD COMB FILTER**  
IC 7000 on COMB filter panel

**G**



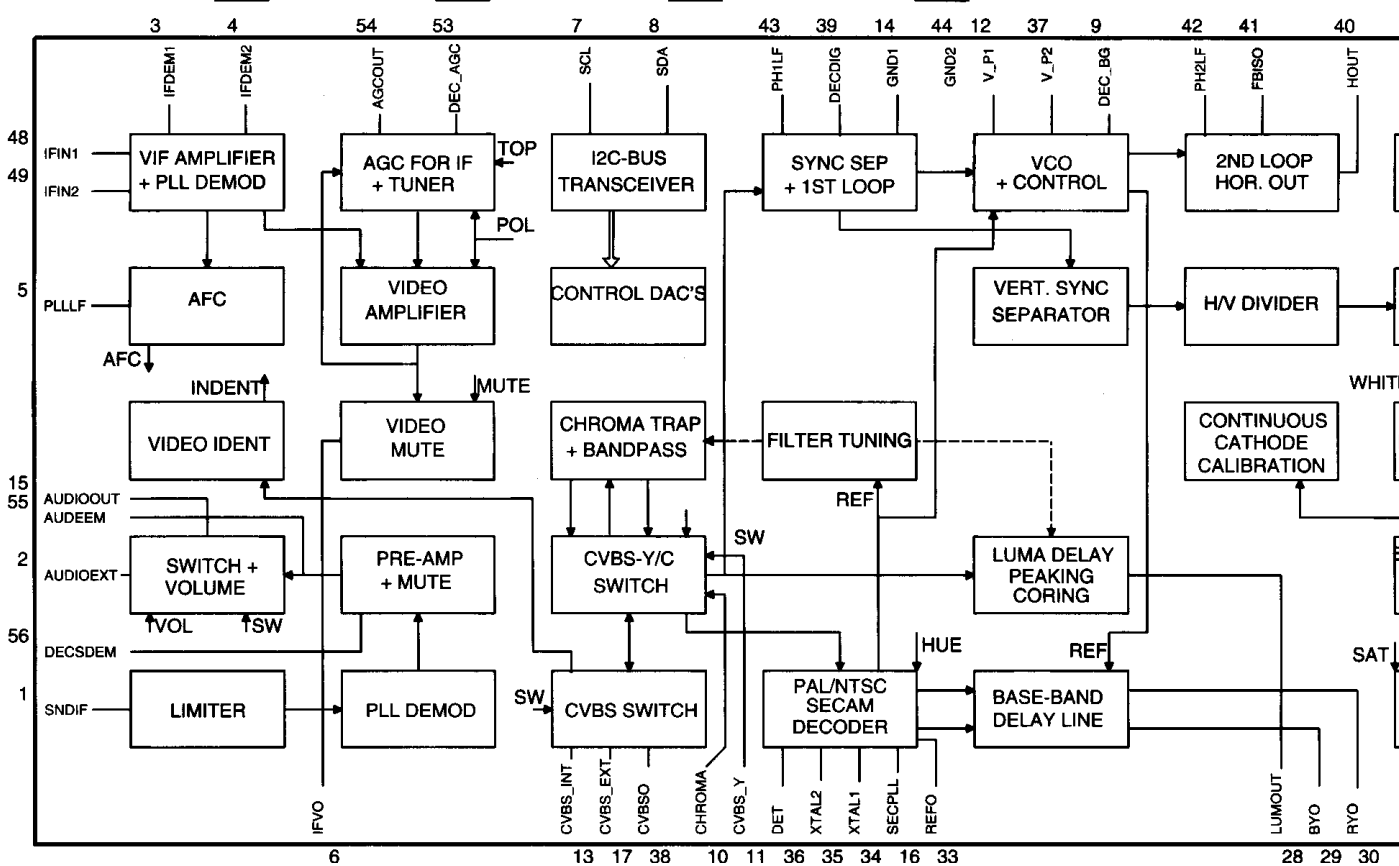
**TDA8844 PAL/NTSC/SECAM TV PROCESSOR**  
IC 7150 on Tuner+IF

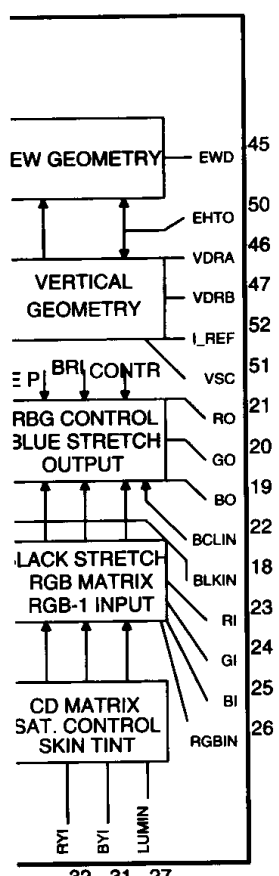
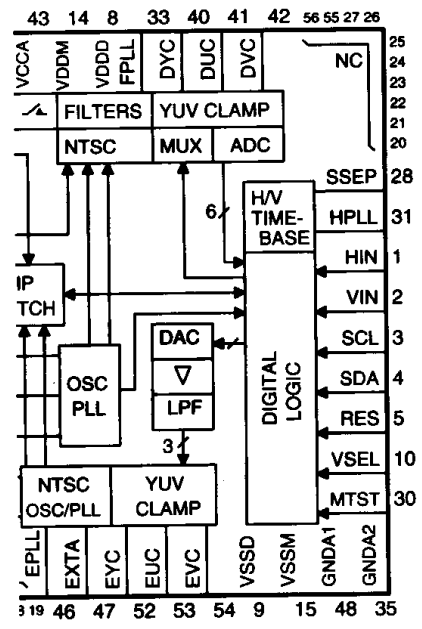
**A4**

**A5**

**A6**

**A7**





General: the Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5.

## 8.1 Alignment conditions

All electrical adjustments should be performed under the following conditions:

- Warm-up time: 10 minutes
- The voltages and oscillograms are measured in relation to the tuner earth.
- Test probe:  $R_i > 10M\Omega$   $C_i < 2,5\text{ pF}$ .

## 8.2 Electrical alignments

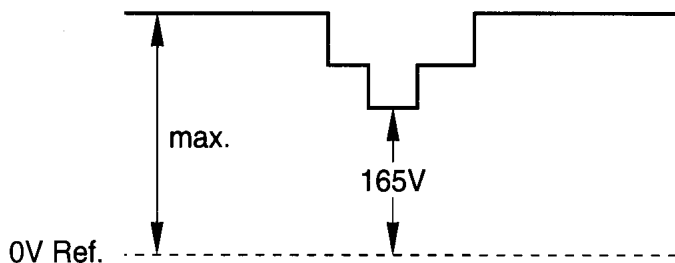
### 8.2.1 VG2

Rough alignment

Using a pattern generator displaying a circle pattern, adjust the VG2 potmeter of LOT L5630 to obtain normal picture.

Fine adjustment

Connect RF output of the pattern generator to antenna. Test pattern: blank pattern (blank screen on CRT). Set brightness, colour and contrast to minimum. Set the time base of the oscilloscope to 0.5ms with external triggering of the vertical pulse. Measure the black level pulse during the vertical flyback at the RGB cathodes of the CRT.



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020698

Figure 8.1: Black level pulse

Adjust the value of the highest of the three guns with the VG2 pot meter of the LOT to 165Vdc.

### 8.2.2 Focus

- Set the smart picture setting to natural.
- Using a pattern generator displaying a crosshatch pattern, adjust the focus potmeter of LOT L5630 in such a way that the haze on the vertical lines at 2/3 from the left and right edges of the screen (just) disappears.

### 8.2.3 Alignment of IF sound trap (34.4MHz and 33.5MHz)

- Disconnect jumper 4149
- Inject a sinewave of 34.4MHz (PAL Multi) or 33.5MHz (/93) to anode of D6145 via the following network:

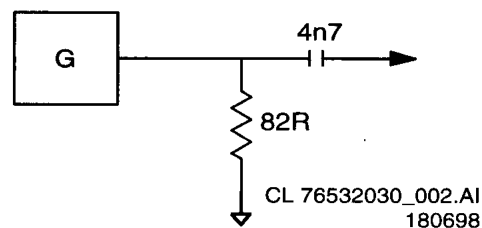
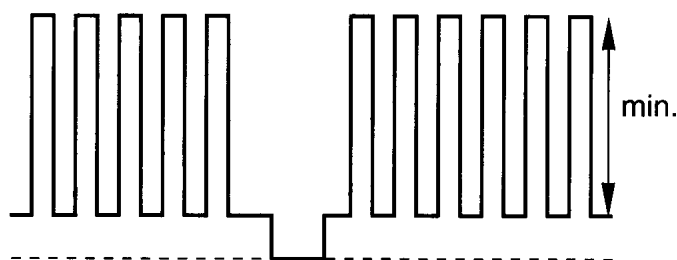


Figure 8.2: Measurement network

- Connect an oscilloscope to pin 1 & 2 of 1145
- Adjust coil 5145 for minimum output at 1145.

### 8.2.4 QSS demodulator (DK system sets)

- Tune the set to a particular station with NICAM DK transmission
- Connect an oscilloscope at pin 4 of M11B
- Adjust coil 5402 till minimum video content is reached at pin 4 of M11B



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020698

Figure 8.3: Signal at L5402

## 8.3 YC PIP

Before alignment, make sure following voltages are present:

- +5V at pin 4 of P07
- +8V at pin 4 of P10
- insert an external 5V DC source at pin 1 of P07

VCO alignment

1. Connect an IF signal (no modulation) of 45.75 MHz 107dBuV to pin 1 of item 1140
2. Adjust S5147 till the DC voltage is 2.35V +/- 100mV at pin 15 of IC7140

AGC alignment

1. Connect an IF signal (no modulation) of 45.75MHz 107dBuV to pin 1 of item 1140
2. Adjust 3140 till 3V +/-0.3V DC at pin 1 of tuner 1126

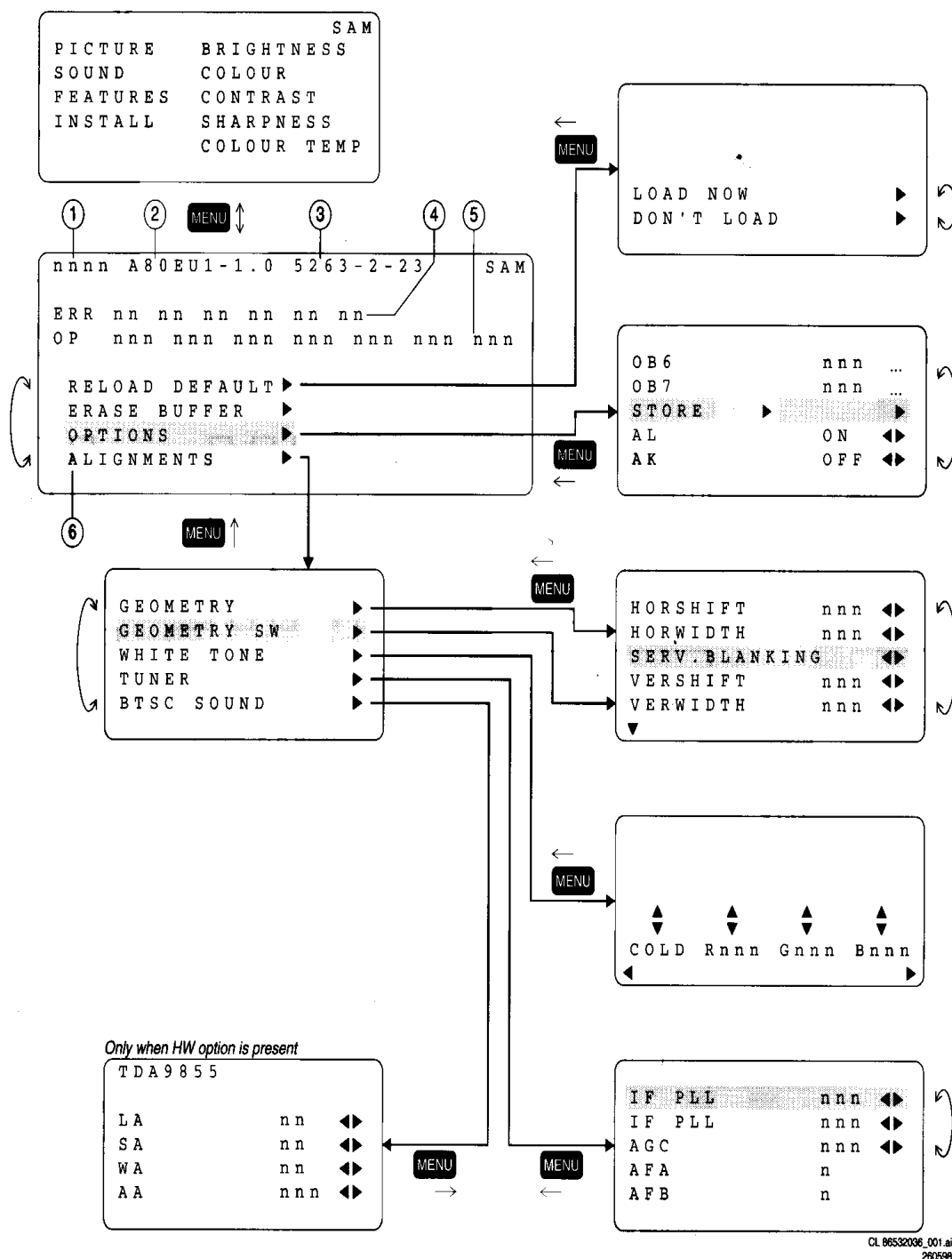
Phase alignment

1. Connect a current meter between pin 6 of IC7140 and an external DC source of 2.5V
2. Connect pin 19 of IC7140 to 5V
3. Adjust potmeter 3141 at pin 4 to (minimum) current reading of approximately 0 +/-0.2A

## 8.4 Software alignments (Service Alignment Mode)

With the software alignments of the Service Alignment Mode the geometry, white tone, tuner (IF) and BTSC sound settings can be aligned.

## SAM Menu



Picture 8.4: Service Alignments Mode screens and structure

## 8.4.1 Geometry alignments

The geometry alignments menu contains 11 items to align a correct picture geometry. In widescreen sets, the GEOMETRY SW is available for separate alignments of the superwide (panorama) mode. The geometry alignments are:

- HORSHIFT (horizontal shift): align the horizontal centre of the picture to the horizontal centre of the CRT
- HORWIDTH (horizontal width): align the picture width (\*)

- SERV.BLANKING (service blanking): switch on/off the blanking of the lower half of the screen (can be used in combination with the vertical alignments)
- VERSHIFT (vertical shift): align the vertical centre of the picture to the vertical centre of the CRT
- VERHEIGHT (vertical width): align the picture height (other vertical alignments are NOT compensated)
- VERSLOPE (Vertical slope): Align the vertical centre of the picture to the vertical centre of the CRT. (This is the first alignment to be performed of the vertical alignments)
- EW PARABO (E/W parabola): align straight vertical lines at the sides of the screen (\*)
- EW TRAPEZ (E/W trapezium): align straight vertical lines in the middle of the screen (\*)

- EW CORNER (E/W corner): align straight vertical lines in the corners of the screen (\*)
- VER S-COR (vertical S-correction): align the vertical linearity, meaning that vertical intervals of a grid-pattern must be equal over the entire height.
- VERZOOM (vertical zoom): align the picture height (other vertical alignments are compensated)

Easy way to adjust vertical geometry. (4:3)

- Set VER S-COR to value 13
- Set VERZOOM to value 25
- Set SERV.BLANKING to 'ON'
- Adjust VERSLOPE till the test pattern centre line touches the centre edge
- Adjust VERSHIFT and VERHEIGHT till best fix the screen

#### 8.4.2 White tone

In the white tone sub menu the colour values for the colour temperature values can be changed.

The colour temperature mode (NORMAL, WARM, COLD) or the colour (R, G, B) can be selected with the RIGHT/LEFT cursor keys. The mode or value can be changed with the UP/DOWN cursor keys.

First the values for the NORMAL colour temperature should be selected. Then the offset values for the COLD and WARM mode can be selected. Note that the alignment values are non-linear

0 represent the middle value (no offset difference)

1-127 represent a positive offset (127 is the maximum positive offset) 128-256 represent a negative offset (128 is the maximum negative offset)

Scale:

Negative <<< 128, 256, 0, 1, ..., 127 >>> Positive (0 = no offset)

#### 8.4.3 Tuner

IF alignment; The IF PLL and IF PLL L' alignments are done automatically by the TDA8844. Changing the value has no effect

AGC alignment; With the AGC alignment, the automatic gain control crossover can be aligned. Adapt this setting in case the signal of a strong local transmitter is distorted.

AFA and AFB display the status of the automatic frequency control. Since this is automatically adjusted, these values do not have to be used.

#### 8.4.4 BTSC adjustment

Composite level adjustment

- Connect RF output of the pattern generator PM5418 to antenna
- Adjust pattern generator to the following settings:
  - Frequency: 187.25MHz (channel 9)
  - RF amplitude: 1mVrms
  - Pattern: blank (no pattern is selected)
  - System: NTSC M
  - Carrier: ON
  - Test data: L=R=300Hz
- Set the TV set to MONO and SAP to OFF

- Activate SAM, select ALIGNMENT and then BTSC SND
- Measure at pin 15 or pin 38 of IC7437 TDA9855
- Adjust LA (level adjust) values until the output level is 500mVrms
- Press MENU keys on RC to store adjusted value

Stereo separation adjustment

1. Connect RF output of the pattern generator PM5418 to antenna
2. Adjust pattern generator to the following settings:
  - Frequency: 187.25MHz (channel 9)
  - RF amplitude: 1mVrms
  - Pattern: blank (no pattern is selected)
  - System: NTSC M
  - Carrier: ON
  - Test data: L=300 Hz R=3.1 kHz
3. Set the TV set to STEREO and SAP to OFF
4. Activate SAM, select ALIGNMENT and then BTSC SND
5. Connect pin 15 and pin 38 of IC7437 TDA9855 to ground
6. Select AA (auto adjust) and wait for at least one second
7. Notice that the SA (Spectral) and WA (wideband) will change. If necessary, adjust SA or WA for optimal result
8. Press MENU keys on RC to store adjusted values

## 8.5 Options

Options are used to control the presence / absence of certain features and hardware. There are two ways to change the option settings. The various option configurations and the descriptions of the two character-codes are explained in chapter 8 of the manual.

Changing a single option

An option can be selected with the MENU UP/DOWN keys and its setting can be changed with the MENU LEFT/RIGHT keys

Changing multiple options by changing option byte values

Option bytes make it possible to set very fast all options. An option byte represents a number of different options. All options of the A8 are controlled via 7 option bytes. Select the option byte (OB1, OB2, OB3, OB4, OB5, OB6 or OB7) and key in the new value.

Changes in the options and option bytes settings are saved by selected STORE and pressing the MENU RIGHT key. All changes are disregarded when the OPTION submenu is left without using the STORE command. Some changed will only take affect after the set has been switched OFF and ON with the mains switch.

#### 8.5.1 List of options

Unless otherwise stated ON means present (or yes), OFF means not present (or no)

Table 8-1

Option	Functionality
AK	Auto Standby (after 2 hours of no activity via RC or keyboard)
AN	Auto Standby when 15 minutes no picture
AV	>1 AV Source
BM	Blue mute
CF	must be always ON when a PIP panel is present
CH	IF at 38.0MHz (ON = IF at 38.0MHz, OFF = IF at 38.9MHz) (not for NTSC sets)
CL	Child Lock (in FEATURE menu)
CM	Compress 16:9
CS	Customer Service Mode
DN	Dynamic Noise Reduction (in FEATURE menu)
DS	Preset downloading with Dealer Service Tool possible
EX	Expand 14:9 (via RC SCREEN MODE button)
HO	Hospitality Mode
IM	Incredible Picture (when YUV panel is present) or Contrast Plus (no YUV panel present) item in FEATURE menu
IP	YUV panel present
PI	PIP (MC44462) or DW (SAB9081) present
PL	Parental Lock (only in NTSC sets)
PS	PIP Surf
PT	2nd PIP Tuner (when ON, the CF options should also be ON)
SC	Smart Clock / Timer
SR	Incredible Surround sound
VS	Vertical Sync slicing level; NTSC: always ON; PAL-MULTI: always OFF
W1	ECO PIP Double Window 4:3 mode (only in Pal/Multi sets in combination with PI=ON)
W2	ECO PIP Double Window 16:9 mode (only in Pal/Multi sets in combination with PI=ON)

S0,S1,S2 Number of AV sources (see below)

Table 8-2

S0	S1	S2	REAR	SIDE
OFF	OFF	OFF	SVHS1/ AV1	AV2
OFF	ON	ON	SVHS1/ AV1	SVHS2/ AV2
ON	ON	ON	SVHS1/ AV1 AV2	SVHS2/ AV3

SA, SBSound decoding system (see below)

Table 8-3

SA	SB	Sound	ICStereo
ON/OFF	ON	MSP3400C	2CS only
ON	OFF	MSP3410D	2CS and Nicam
OFF	ON/OFF	MSP3410D	2CS only

8.5.2 Option bits/bytes

**Option bits (Pal/Multi sets)**

OB1 bits 8, 7, ..., 1: AK, AN, AV, BM, DN, DS, CM, CS

OB2 bits 8, 7, ..., 1: EX, HO, IP, PI, CL, PS, PT, SA

OB3 bits 8, 7, ..., 1: SB, S0, S1, S2, SC, SR, W1, W2

OB4 bits 8, 7, ..., 1: CF, IM, VS, CH(/43 & /57), (res), (res), (res), (res)

OB5 bits 8, 7, ..., 1: (reserved)

OB6 bits 8, 7, ..., 1: (reserved)

OB7 bits 8, 7, ..., 1: (reserved)

**Option bits (NTSC sets)**

OB1 bits 8, 7, ..., 1: AK, AN, BM, DS, CM, CS, DN, EX

OB2 bits 8, 7, ..., 1: HO, IP, PI, PL, PS, PT, S0, S1

OB3 bits 8, 7, ..., 1: S2, SR, IM, VS, CF, SA(/61), SB(/61), (res)

OB4 bits 8, 7, ..., 1: (reserved)

OB5 bits 8, 7, ..., 1: (reserved)

OB6 bits 8, 7, ..., 1: (reserved)

OB7 bits 8, 7, ..., 1: (reserved)

An option byte value is calculated in the following way:

- value "option bit 1" x 1 =.....
- value "option bit 2" x 2 =.....
- value "option bit 3" x 4 =.....
- value "option bit 4" x 8 =.....
- value "option bit 5" x 16 =.....
- value "option bit 6" x 32 =.....
- value "option bit 7" x 64 =.....
- value "option bit 8" x 128 =.....+
- value "option byte" =.....



## 9.1 Training Manual

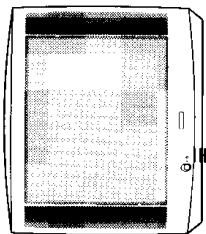
The A8 circuitry is described in detail in the A8 Training Manual. In the Training Manual, the following topics are covered:

1. Introduction
2. Mechanical
3. Control
4. Power supply
5. Video processing
6. Synchronisation
7. Audio processing
8. Audio output stage
9. Horizontal Deflection
10. Vertical Deflection
11. Teletext and on screen display
12. Wide screen view modes

The order code of the A8 Training Manual is 4822 727 21613.

## FUNCTIONS OF TV CONTROLS/SOCKETS

3

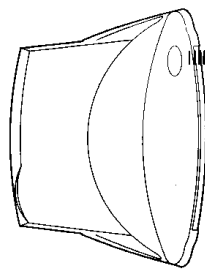


- 1 Mains Power button**  
Switch mains power on or off.

- 2 Standby light indicator**  
Indicate red light when standby mode is activated.

- 3 Remote Sensor**  
Aim remote control handset at remote sensor when operating the TV.

- 4 Volume +/- button**  
Adjust sound volume louder/softer.



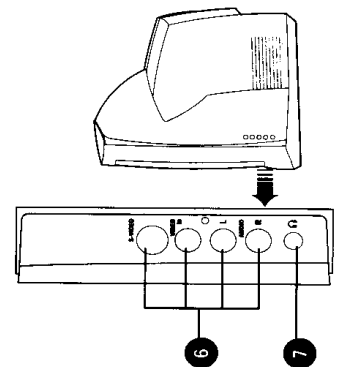
- 5 P (Programme) +/- button**  
Select channel in ascending/descending order.

**Note**

- You can enter the main menu by pressing **both** the **Volume +/-** buttons at the same time.
- Press **Programme +/-** button to select sub-menu.
- Press **Volume +/-** button to activate sub-menu.

- 6 AV in sockets**  
Connect to VIDEO out and AUDIO out sockets of VCR/laser disc player.

- 7 Headphone socket**  
Connect headphone jack to socket for personal listening.



## FUNCTIONS OF REMOTE CONTROL

4

- 1 SLEEPTIMER**

Allows you to select a time period after which the set will switch to standby mode automatically. You can set the timer in steps of 15 minutes from OFF mode up to a maximum of 120 minutes.

- 2 OSD (On-Screen Display)**

Displays :  
- channel number.  
- remaining time of the sleep timer.  
- programme name.  
- information line  
- transmission mode.

- 3 AV**

Selects S-VID1, AV1, AV2, S-VID3, AV3 and the last viewed channel respectively.

- 4 INCREDIBLE SURROUND**

Allows you to select incredible surround sound when transmission is in stereo mode.

- 5 INCREDIBLE PICTURE**

Allows you to view a more vivid and realistic picture with better contrast when the "ON" function is selected.

- 6 SMART SOUND**

Allows you to select 4 types of sound settings

- 7 MENU**

Allows you to adjust picture and sound settings and activate the features and install the channels automatically.

- 8 CURSOR UP**

Allows you to select the sub-menu.

- 9 CURSOR LEFT**

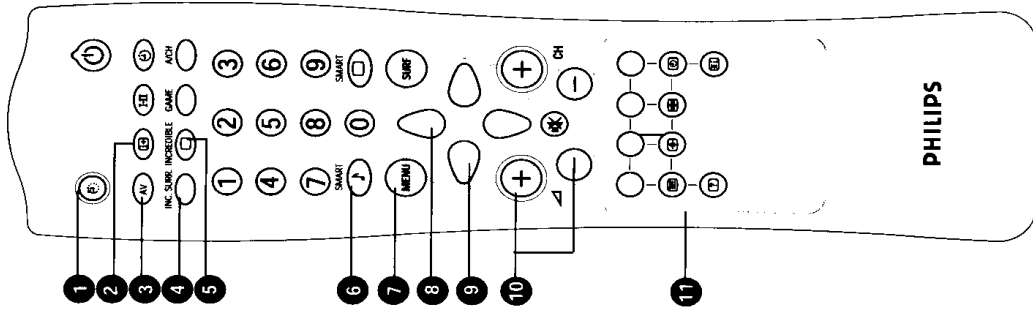
Allows you to access or adjust the sub-menu.

- 10 VOLUME +/-**

Increases/Decreases volume.

- 11 TELETEXT**

Allows you to select teletext information.

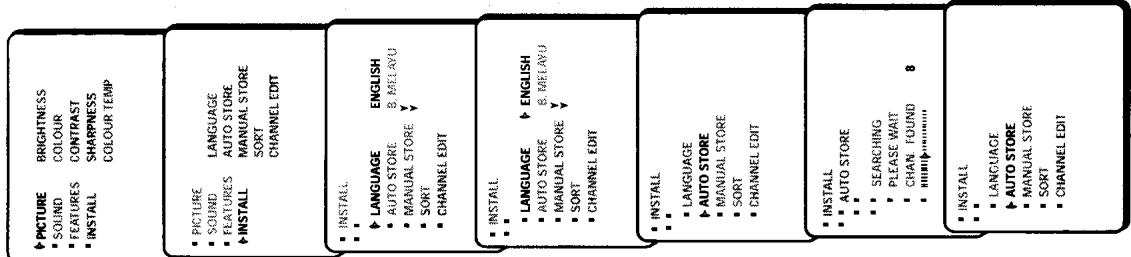


7

**LANGUAGE SELECTION / AUTOMATIC TUNING OF TV CHANNELS**

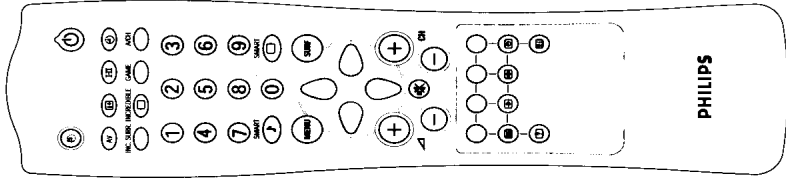
How to tune in the channels automatically (Auto Store)

**Result on TV Screen**



**Press button**

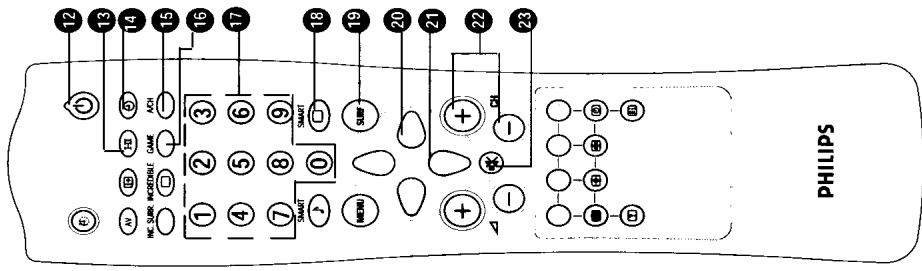
- Enter main menu .
- Press button repeatedly until **INSTALL** is selected.
- Enter install menu.
- Enter language mode.
- Select desired language - **ENGLISH, B.MELAYU** or **H.X.**
- Go back to language mode.
- Select **AUTO STORE**.
- Start automatic tuning. Note : To interrupt tuning, press **MENU** button.
- Exit menu from screen.



5

**FUNCTIONS OF REMOTE CONTROL**

- 12 STANDBY**  
Switch set off temporarily to standby mode. (The red light indicator lights up when set is on standby mode). To switch on set from standby mode, press and hold button for a few seconds.
- 13 FI**  
Allows you to switch from Stereo to Mono sound (stereo transmission) or to choose between language I and language II.
- 14 TIMER**  
Not applicable.
- 15 A/CH**  
Alternates between last viewed channel and present channel.
- 16 GAME**  
Allows you to select Video mode as input for video games.
- 17 DIGIT (0 - 9)**  
Allows you select a channel. For a 2- digit channel number, the second digit must be entered before the " " sign disappears
- 18 SMART PICTURE**  
Allows you to select 4 types of picture settings.
- 19 SURF**  
Allows you to select up to a maximum of 10 channels and view quickly the selected channels.
- 20 CURSOR RIGHT**  
Allows you to access or adjust the sub-menus.
- 21 CURSOR DOWN**  
Allows you to select the sub-menus.
- 22 CHANNEL + / -**  
Allows you to select channel in ascending or descending order.
- 23 MUTE**  
Mutes sound. To restore sound, press button again.



## MANUAL TUNING OF TV CHANNELS

### How to tune in the channels manually (Manual Store)

Manual tuning of channels allows you to select your preferred programme number for every available programme.

#### Press button



Enter main menu



Press button repeatedly until **INSTALL** is selected.



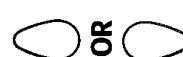
Enter **INSTALL** menu



Press button repeatedly until **MANUAL STORE** is selected.



Enter **MANUAL STORE** menu. Press **ENTER** button again to enter **SYSTEM** mode.



Select the respective transmission – **AUTO**, **NTSC-M**, **SECAM-DK**, **PAL-DK**, **PAL-I** or **PAL-BG**.  
**Note** : If **AUTO** is selected, the respective colour system will be automatically selected according to the transmission system.

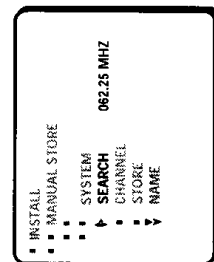
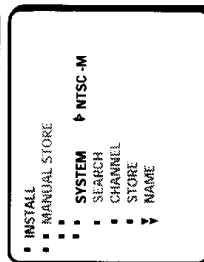
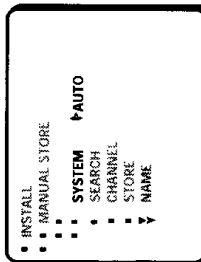
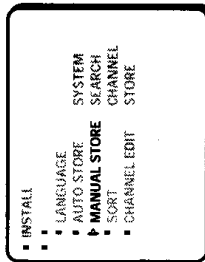
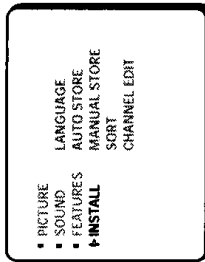


Go back to **MANUAL STORE** menu



Highlight **SEARCH**.

#### Result on TV Screen



## ..... MANUAL TUNING OF TV CHANNELS

#### Press button



Enter **MANUAL STORE** menu.



Enter **MANUAL STORE** mode.



Start searching for the next transmitting channel. Searching stops once a transmitting channel is found.



**OR**



Go back to **MANUAL STORE** menu.



Highlight **CHANNEL**.



Key in the desired channel number.



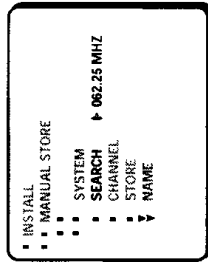
Highlight **STORE**.



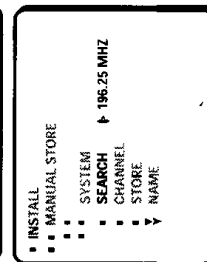
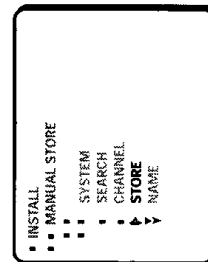
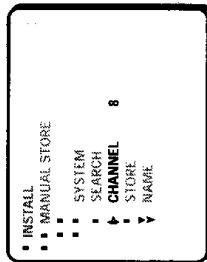
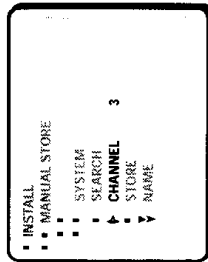
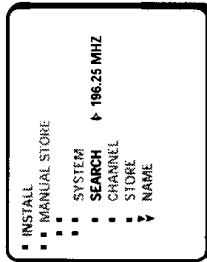
Store tuned channel. To continue searching for the next transmitting channel, repeat all the above steps.



Exit menu from screen.



#### Result on TV Screen

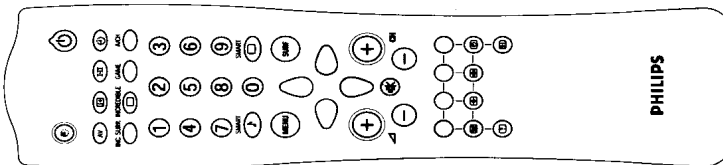


**FINE TUNING OF TV CHANNELS**

**How to do fine tuning**

This feature allows you to adjust the picture reception in area of weak reception.

**Press Button**



Select the channel you want to fine-tune.

Enter main menu.  
Press button repeatedly until **INSTALL** is selected.

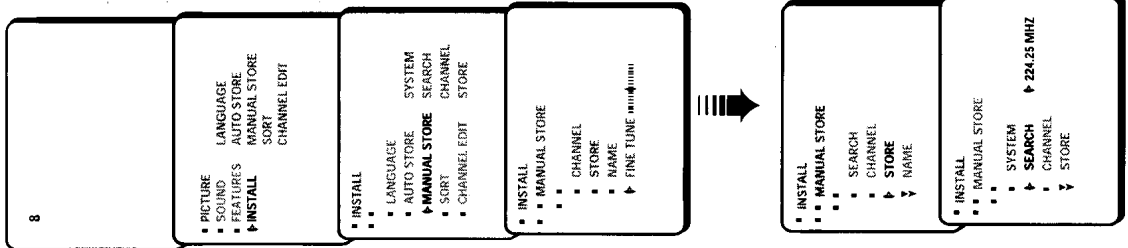
Enter **INSTALL** menu.  
Press button repeatedly until **MANUAL STORE** is selected.

Enter **MANUAL STORE** menu.  
Press button repeatedly until **FINE TUNE** is selected.

Start fine-tuning until desired picture and sound is obtained.

Press button repeatedly until **STORE** is selected.

Store last fine-tuned status.  
Exit menu from screen.



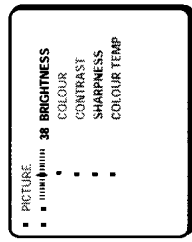
**Result on TV Screen**

**PICTURE AND SOUND ADJUSTMENTS**

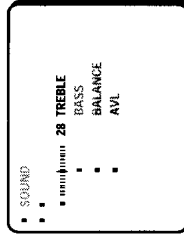
The picture and sound menu allows you to make adjustments to the picture and volume level.

- 1 Press **(MENU)** button to enter main menu.
- 2 Use the **(CURSOR UP)** or **(DOWN)** buttons to select the **PICTURE** or **SOUND** menu and the **(CURSOR LEFT)** or **(RIGHT)** buttons to make adjustments or access the sub-menus.
- 3 Press **(OSD)** button to exit all menus from screen.

Picture menu item	Selection
Brightness	Increase/decrease level
Colour	Increase/decrease intensity
Contrast	Increase/decrease level
Sharpness	Increase/decrease level
Colour temp	Choice of 3 colour tones



Sound menu item	Selection
Treble	Increase/decrease level
Bass	Increase/decrease intensity
Balance	Increase/decrease level
* AVL	Refer to section on AVL



**\* AVL (Auto Volume Leveller)**

Auto Volume leveller adjusts volume level automatically to a standard level when you experience sudden change in volume during commercial break or channel switching due to the variation in signal conditions.

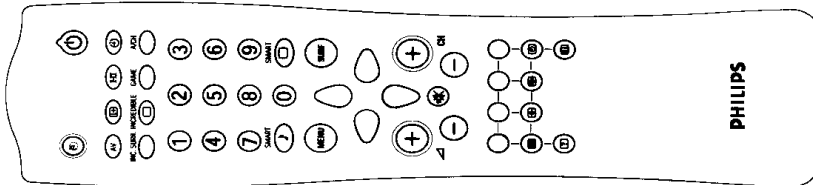
**FEATURES (LOCK FEATURE)**

16

The **FEATURES** menu allows you access to the **LOCK**, **MESSAGE** and **DNR** (Dynamic Noise Reduction) features.  
**LOCK** feature allows you to lock all channels except for one selected channel. When "ON" mode is selected in the **LOCK** menu, the TV can only be switched on with the remote control. The **P (Programme)** + / - buttons on top of the TV cannot be used to select a TV channel. The remote control must be kept out of reach to prevent any unauthorised use of your TV.

**How to use the Lock feature**

**Press button**



Select channel that you want to view.

Enter main menu .

Press button repeatedly until **FEATURES** is selected.

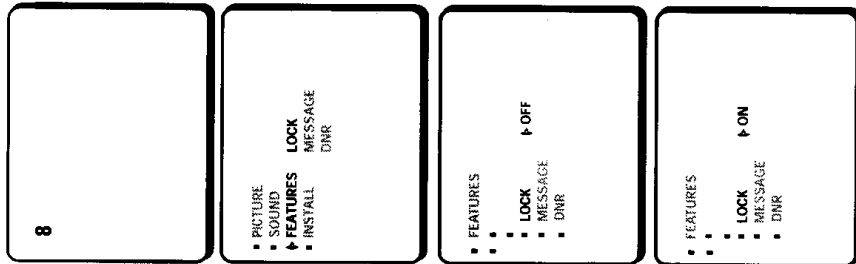
Enter **FEATURES** menu and press **LOCK** button again to enter **LOCK** mode.

Select **ON** mode to lock channels.

**Note :** To unlock channels, select **OFF** mode. Ensure you do not lose your remote control as you can **ONLY** unlock all the channels through the remote control.

Exit menu from screen.

**Result on TV Screen**

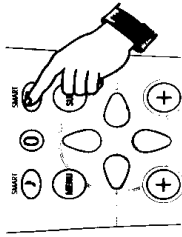


**SMART CONTROLS**

20

**Smart Picture**

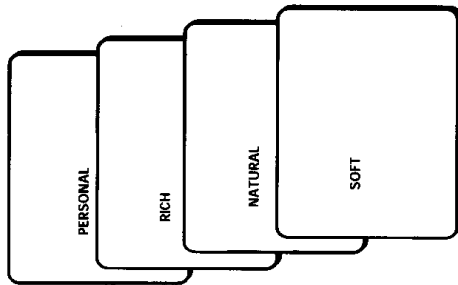
Smart Picture offers you a choice of 4 picture settings – **PERSONAL**, **RICH**, **NATURAL** and **SOFT**.



• Press **SMART** (Picture) button repeatedly to cycle through the 4 settings to select your desired mode.

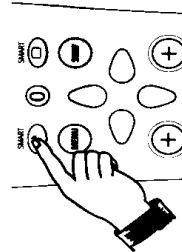
**Definition of Picture Settings**

- PERSONAL** : Picture settings are set to your preference.
- RICH** : Emphasize very vibrant colours. (Suitable for AV mode in brightly-lit room)
- NATURAL** : Emphasize original colours.
- SOFT** : Emphasize "warm" colours. (Suitable for dimly-lit room condition and gives cinema-like effect when light is switched off)



**Smart Sound**

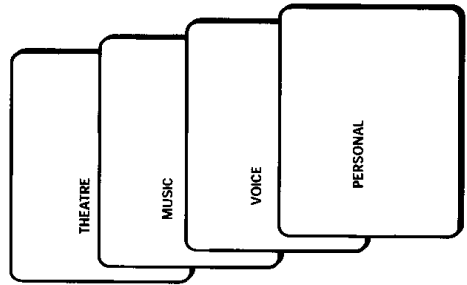
Smart Sound offers you a choice of 4 settings – **THEATRE**, **MUSIC**, **VOICE** and **NORMAL**.



• Press **SMART** (Sound) button repeatedly to cycle through the 4 settings to select your desired mode.

**Definition of Sound Settings**

- THEATRE** : Emphasize sensation to action. (Bass and Treble boosted)
- MUSIC** : Emphasize low tone. (Bass boosted)
- VOICE** : Emphasize high tone. (Treble boosted)
- PERSONAL** : Sound settings are set to your preference.



**GENERAL INFORMATION/TIPS**

**Safety**

**Disconnect mains plug when :**

- the RED light below the screen is flashing continuously and the TV cannot be switched on.
- a bright white line is displayed across the screen.
- cleaning the TV screen. Never use abrasive cleaning agents. Use a slight damp chamois leather.
- there is a lightning storm.
- the set is left unattended for an extended period of time.

**Caution :** Never attempt to repair a defective TV yourself. Always consult a skilled service personnel.

**Switch off your TV overnight via the POWER ON/OFF button instead of leaving it on standby. You save energy and at the same time demagnetise the picture tube. A demagnetised picture tube supports good picture quality. When the set is switched on, do not shift, move or turn (e.g. on a swivel base) the set around because an unevenness in colour in some parts of the screen may occur. This can be eliminated by switching off the set by the mains power button . Wait for 20 minutes before switching on again. If symptom still exists, call service.**

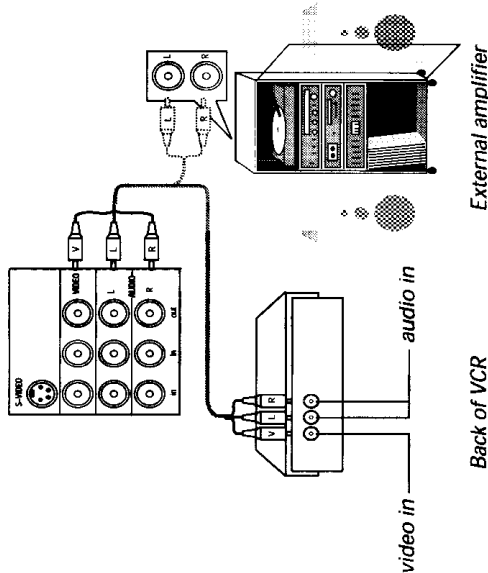
**Before calling service**

Symptom	Check/Action
Colour patch (unevenness)	<ul style="list-style-type: none"> <li>• Switch off TV by the mains power button. Wait for 20 minutes before switching on again.</li> </ul>
No power	<ul style="list-style-type: none"> <li>• Check TV's AC power cord is plugged into mains socket. If there is still no power, disconnect plug. Wait for 60 seconds and re-insert plug. Switch on TV again...</li> </ul>
No picture	<ul style="list-style-type: none"> <li>• Check antenna connection at rear of the TV.</li> <li>• Possible faulty TV station. Try another channel.</li> <li>• Increase the contrast setting first and then the brightness setting.</li> <li>• Try increasing the volume.</li> <li>• Check whether sound is switched on.</li> </ul>
Good picture but no sound	<ul style="list-style-type: none"> <li>• Increase the contrast setting first and then the brightness setting.</li> </ul>
Good sound but poor or abnormal colour or no picture	<ul style="list-style-type: none"> <li>• Check antenna connection at rear of the TV.</li> </ul>
Snowish picture and noise	<ul style="list-style-type: none"> <li>• Possible electrical interference( e.g. hairdryer, nearby neon lights, etc). Switch off equipment.</li> </ul>
Horizontal dotted lines	<ul style="list-style-type: none"> <li>• Possible poor positioning of antenna. Using a highly directional antenna may improve reception.</li> </ul>
'Ghosts' or double image	<ul style="list-style-type: none"> <li>• Check life span of batteries.</li> <li>• Aim remote control handset directly at remote control sensor lens on the TV set.</li> </ul>
TV not responding to remote control handset	

**CONNECTING PERIPHERAL EQUIPMENT**

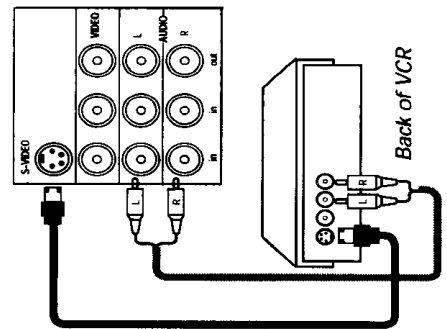
**Recording programmes from TV to VCR**

- Connect your equipment to the sockets at **VIDEO out**. To enhance the sound of your television, connect the **AUDIO L** and **R** sockets to an external amplifier instead of to the video cassette recorder. For mono equipment, connect only the **AUDIO L** (left) socket.



**Playback programmes from VCR to TV**

- Connect the **S-VIDEO in** socket from the television to the **Output** socket (if available) of the VCR to enhance the picture quality.
- Connect **AUDIO L** and **R** in sockets to the **Output** sockets of the VCR to playback programmes.



## 11 List of Abbreviations

List of abbreviations+13V	+13V derived from LOT. It also used for disable the +5V supply	L/R_INCREDED_IN	Left/Right audio input for incredible sound processing
+13V_+20V	+13V or +20V (picture tube dependent) supply derived from the LOT to the vertical deflection output stage	L/R_MON	Left/Right audio output for the monitor (WYSIWYG)
+13V_SCAVEM	+13V supply for the SCAVEM circuit in the CRT panel	LED	LED driving signal
+14V	+14V for the RGB kill circuit	MUTE	MUTE switching signal for sub woofer
+15V	+15V power supply for sound output stage	P2	Together with D2_P1 connection form a parallel network (of resistor & capacitor) across the S-correction capacitor of 2624. This is used on widescreen set
+200V	+180V supply voltage for the RGB amplifier	PAN_SWITCH	Panorama switching signal from uP
+33V	+33V for tuning voltage, derived from VBAT	PHASE_CORRECTI ON	Horizontal phase correction signal for the BIMOS
+5V	+5V power supply for small signal circuit	PHASE_CORRECTI ON	Horizontal phase correction signal from line output stage
+5V_STBY	+5V standby voltage	POR	Power On Reset signal for uP
+5VA	Derived from +5V via 5100	POSNEG_QSS	Positive or Negative modulation of Quasi-Split Sound
+5VD	Derived from +5V_STBY via 5090	PROT_E_W_VERT	Protection switching signal to the uP. It is connected with 3 protection circuits of EW protection, vertical protection and x-ray protection
+5VSOUND	Derived from +5V via 5430	PROT_IBEAM_EHT_ INFO	High beam current protection switching signal to the BIMOS pin 50
+8V	+8V power supply for small signal circuit	R_IN	Red insert signal to TDA8844
+8VA	Derived from +8V via 3250	R_TXT_OSD	Red signal for teletext or on-screen display
+8VB	Derived from +8V via 3162	R_Y_IN	R-Y input signal to TDA8844
+8VSOUND	+8V source regulated from +13V	R_Y_OUT	R-Y output signal from TDA8844
-13V	-13V supply to the vertical deflection output stage	RC5	RC5 signal from infer-red receiver
50/60Hz	50 Hz or 60 Hz switching signal from DW panel	REAR1_L	Left audio source from rear input cinch 1
AMP_MUTE1	Switching signal for muting sound amplifier circuitry	REAR1_R	Right audio source from rear input cinch 1
B_IN	Blue insert signal TDA8844	REAR2_L	Left audio source from rear input cinch 2
B_TXT_OSD	Blue signal for teletext or on-screen display	REAR2_R	Right audio source from rear input cinch 2
B_Y_IN	B-Y input signal to TDA8844	RGB_KILL	Red, Green and Blue suppression of main picture signal
B_Y_OUT	B-Y output signal from TDA8844	RGB_SW_OFF	RGB switch off DC voltage to the RGB amplifier. It only works during switching off the TV set
BASEBAND_AUDIO	Baseband audio out signal (BTSC & mono set)	S_GND	Sound grounding for output stage
C_EXT	External chrominance signal	SCL	I2C clock line
C_FRNT	External chrominance signal from Side AV	SDA	I2C data line
C_REAR	External chrominance signal from IO rear	SEL_IF_TRAP_MAIN	Switching signal to suppress 34.4 MHz on PAL/multi set and to select 4.5 MHz sound trap
CU1/2/3	Copper track 1, 2 or 3. Not meaningful to service	SEL_INCREDED	Incredible sound on/off switching signal
CVBS+SIF_MAIN	Main composite video baseband signal plus sound IF signal	SEL_MAIN_FRNT_R R	AP-NTSC SOUND: Switching signal of external sound source from rear I/O or side AV; AP-PAL/MULTI: Switching signal of external Y/CVBS source from rear I/O or side AV
CVBS_INT	Internal source composite baseband signal	SEL_MAIN_R1R2	AP-NTCS SOUND: Switching signal of external sound source from cinch 1 or 2
CVBS_MON	Composite video baseband signal for monitor (WYSIWYG)	SEL_PIP_FRNT_RR	Selection signal of PIP external source from rear I/O or side AV
CVBS_PIP	Composite Video Baseband Signal for PIP	SEL_PIP_R1R2	Switching signal of PIP external source from cinch 1 or 2
CVBS_PIP_EXT	External source of Composite Video Baseband Signal for PIP from rear IO	SEL_TUNER1_2	Switching signal between main tuner or PIP 2nd tuner
CVBS_PIP_FRNT	External source of Composite Video Baseband Signal for PIP from Side AV	SOUND_IF	Sound Intermediate Frequency
D1	Connection of anode of 6621 to the modulating diode of EW panel	STAT_HP	Status signal from headphone socket
D2_P1	Connection of anode of "Mannheim-effect" diode 6626 and the bridge coil on EW panel	SVHS_MODE	Switching signal to YC adder circuit
DEGAUS	Degaussing switching signal	SW_AUDIO_IN	Sub woofer audio input
E_W_DRIVE	East West Drive signal for EW panel	SYS1	System selection for PAL/M/BG/N or NTSC-M
EHT_INFO	EHT info related to the beam current	SYS2	System selection for PAL/M/BG/N or NTSC-M
EXT_R/L	Left/right audio external source to TDA9855 (BTSC)	V	Vertical reference signal for OSD
FBL_TXT_OSD	Fast blanking signal for teletext or on-screen display	V_NEG	Inverted Vertical signal
FBL1/2	Fast blanking signals for contrast reduction OSD	VBAT	+140V power supply for line output stage
FF	Filament supply voltage	VBAT_2 = VBAT	+140V derive from VBAT
FRNT_CNTRL	Top control button signal	VDRIVE_NEG	Negative vertical drive signal from BIMOS pin 47
G_IN	Green insert signal to TDA8844		
G_TXT_OSD	Green signal for teletext or on-screen display		
GND_LOT	Return path of filament current		
H_DRIVE	Horizontal drive signal		
H_NEG	Inverted Horizontal signal		
HFB	Horizontal flyback signal		
IF1	Intermediate frequency from tuner		
L/R_AUDIO_IN	Left/Right audio input for sound amplifier		
L/R_FRNT	Left/Right external audio source from side-AV		
L/R_HP_IN	Left/Right audio input for headphone buffer		
L/R_HP_OUT	Left/Right audio output for headphone		



# 11 List of Abbreviations

VDRIVE_POS	Positive vertical drive signal from BIMOS pin 46
Y_CVBS_EXT	External Luminance or composite video baseband signal
Y_CVBS_FRNT	External Luminance or composite video baseband signal from Side AV
Y_CVBS_MON	Monitor out signal of luminance or composite video baseband signal
Y_CVBS_REAR	External composite video baseband signal or luminance signal source from rear IO
Y_IN	Luminance input signal from TDA8844
Y_OUT	Luminance output signal from TDA8844

## chassis [A]

## Various

0132Δ	4822 276 13603	Mains switch
0148Δ	4822 402 11116	Heatsink bracket
0151	4822 256 10336	LED holder
0200	4822 267 10933	7P Male
0205Δ	4822 267 10888	5P Male
0206Δ	4822 267 10889	6P Male
0208Δ	4822 267 10888	5P Male
0210	4822 267 10891	6P Male
0212Δ	4822 267 10888	5P Male
0222	4822 267 31673	Headphone plug
0223Δ	4822 267 10892	4P Male
0224	4822 267 10928	5P Male
0233	4822 255 70281	NTC holder
0245Δ	4822 267 10775	2P Male (black)
0246Δ	4822 265 20723	2P conn. BM vert.
0247Δ	4822 267 10892	4P Male
0248	4822 267 10929	5F Female
0249	4822 267 10929	5P Female
0284	4822 267 10931	7P Male
0293Δ	4822 267 10889	6P Male
0317Δ	4822 532 61201	Spacer (EHT cable)
1081	4822 242 10694	crystal 12MHz
1085	4822 218 11573	remote control
1125Δ	4822 210 10823	GP1U28QP tuner UV IEC TELE9-087A
1125Δ	4822 210 10826	tuner UV CHI IEC TELE9-108A
1125Δ	4822 210 10827	tuner UV PH TELE9- 088A
1125Δ	4822 210 10828	tuner UV PH TELH9- 206A
1125Δ	4822 210 10829	tuner UV CHI PH TELE9-106A
1125Δ	4822 210 10837	tuner UV F TELH9- 205A
1145	4822 242 10357	SAW fit. OFWK2960M
1145	4822 242 10783	SAW fit. OFWK3955M
1145	4822 242 10874	SAW fit. OFWM1967M
1145	4822 242 81637	SAW fit. OFWG3952M
1145	4822 242 81964	SAW fit. OFWG1984M
1158	4822 242 10363	cer. fit. 4.5MHz SFSH
1165	4822 242 81978	cer. fit. 4.5MHz TPS
1167	4822 242 10315	cer. fit. 5.5/5.7/ 6.5MHz TPT
1167	4822 242 81712	cer. fit. TPWA04B
1168	4822 242 81572	cer. fit. TPS6
1168	4822 242 81978	cer. fit. 4.5MHz TPS
1189	4822 242 10695	cr. 4.433619 MHz
1190	4822 242 10776	cr. 3.579545 MHz
1430	4822 242 10769	crystal 18.432 MHz
1431	4822 242 10359	cer. res. 514.5KHz
1901Δ	4822 280 10367	relay
1905Δ	4822 071 51602	Fuse 1.6A
1906Δ	4822 071 51602	Fuse 1.6A
1906Δ	4822 071 52502	Fuse 2.5A
1910Δ	4822 071 51002	Fuse 1A

## -II-

2032Δ	5322 122 34123	1nF 10% 50V
2040Δ	5322 122 34123	1nF 10% 50V
2052	4822 126 13482	470nF 16V
2054Δ	4822 126 10002	100nF 20% 25V
2055Δ	4822 126 10002	100nF 20% 25V
2060	5322 122 32531	100pF 5% 50V
2061	5322 122 32531	100pF 5% 50V
2062	5322 122 32531	100pF 5% 50V
2063	4822 126 13692	47pF 1% 63V
2070Δ	4822 126 10002	100nF 20% 25V
2070	4822 126 13473	220nF 50V
2071	4822 126 13473	220nF 50V
2072	4822 126 13473	220nF 50V
2073	5322 122 32658	22pF 5% 50V
2074	5322 122 32658	22pF 5% 50V
2075	5322 122 32531	100pF 5% 50V
2077Δ	4822 122 32627	2.7nF 10% 50V
2078	4822 124 81029	100μF 20% 25V
2080	5322 122 32531	100pF 5% 50V
2082	4822 126 13473	220nF 50V
2084	5322 122 32531	100pF 5% 50V
2085	4822 126 13689	18pF 1% 63V
2086	4822 126 13689	18pF 1% 63V
2093Δ	4822 124 40433	47μF 20% 25V
2094	4822 126 13473	220nF 50V
2125	4822 124 81029	100μF 20% 25V
2126	4822 124 81029	100μF 20% 25V
2127Δ	4822 126 12944	47nF 10% 50V
2144Δ	4822 122 33177	10nF 20% 50V
2145Δ	4822 122 33177	10nF 20% 50V
2146Δ	4822 122 33177	10nF 20% 50V

2147	5322 122 33861	120pF 10% 50V
2148	4822 122 32139	12pF 2% 63V
2149Δ	4822 122 33177	10nF 20% 50V
2153Δ	5322 122 32654	22nF 10% 63V
2154	4822 124 40242	1μF 20% 63V
2155	5322 122 32659	33pF 5% 50V
2156Δ	4822 124 41579	10μF 20% 50V
2157	4822 126 14087	100nF 10% 63V
2161	5322 122 32659	33pF 5% 50V
2170	4822 124 81029	100μF 20% 25V
2171	4822 126 14087	100nF 10% 63V
2176	4822 126 13482	470nF 16V
2177	4822 126 13482	470nF 16V
2180Δ	5322 122 34123	1nF 10% 50V
2181Δ	4822 126 10002	100nF 20% 25V
2186Δ	5322 122 32654	22nF 10% 63V
2187	4822 124 41576	2.2μF 20% 50V
2188	4822 126 13473	220nF 50V
2189	4822 126 13689	18pF 1% 63V
2190	4822 126 13689	18pF 1% 63V
2196Δ	5322 122 34123	1nF 10% 50V
2197Δ	4822 126 10002	100nF 20% 25V
2241	4822 126 13482	470nF 16V
2247	4822 126 13473	220nF 50V
2248	4822 126 13473	220nF 50V
2250	4822 124 81029	100μF 20% 25V
2251Δ	5322 122 32654	22nF 10% 63V
2259	4822 126 13473	220nF 50V
2261Δ	5322 122 32654	22nF 10% 63V
2263Δ	5322 122 32654	22nF 10% 63V
2266	4822 126 13482	470nF 16V
2267	4822 126 13482	470nF 16V
2292Δ	4822 126 12944	47nF 10% 50V
2293Δ	4822 126 12944	47nF 10% 50V
2294Δ	4822 126 12944	47nF 10% 50V
2322Δ	4822 124 40246	4.7μF 20% 63V
2322Δ	4822 124 41579	10μF 20% 50V
2323	4822 124 40242	1μF 20% 63V
2430	5322 122 31866	6.8nF 10% 63V
2431	4822 126 12105	33nF 5% 63V
2432Δ	4822 126 10002	100nF 20% 25V
2433	4822 126 13482	470nF 16V
2434Δ	4822 122 33177	10nF 20% 50V
2435	4822 124 41576	2.2μF 20% 50V
2436	4822 124 81029	100μF 20% 25V
2437	4822 126 13473	220nF 50V
2438	4822 126 13482	470nF 16V
2439	4822 124 22263	220μF 20% 25V
2440Δ	4822 124 41579	10μF 20% 50V
2441	4822 126 13482	470nF 16V
2442Δ	4822 124 41579	10μF 20% 50V
2443	4822 124 40242	1μF 20% 63V
2444Δ	4822 126 12944	47nF 10% 50V
2445Δ	4822 124 41579	10μF 20% 50V
2446Δ	4822 126 10002	100nF 20% 25V
2447	4822 126 13296	100nF 10% 16V
2447	5322 126 10511	1nF 5% 50V
2448Δ	4822 126 10002	100nF 20% 25V
2449Δ	4822 124 40246	4.7μF 20% 63V
2450	5322 126 10511	1nF 5% 50V
2451	5322 126 10511	1nF 5% 50V
2452Δ	4822 126 10002	100nF 20% 25V
2453Δ	4822 126 10002	100nF 20% 25V
2454Δ	4822 126 12944	47nF 10% 50V
2455Δ	4822 126 12944	47nF 10% 50V
2456	5322 122 32286	3.3pF 5% 50V
2457	5322 122 31866	6.8nF 10% 63V
2457	5322 122 32286	3.3pF 5% 50V
2458	5322 122 32331	1nF 10% 100V
2459	4822 126 12105	33nF 5% 63V
2460	4822 126 13692	47pF 1% 63V
2461Δ	4822 126 10002	100nF 20% 25V
2462Δ	4822 126 12944	47nF 10% 50V
2462	4822 126 13692	47pF 1% 63V
2463	5322 122 32269	6.8pF 5% 50V
2464	5322 122 32448	10pF 5% 50V
2464	5322 122 32658	22pF 5% 50V
2465Δ	4822 126 10002	100nF 20% 25V
2465	5322 126 10511	1nF 5% 50V
2466Δ	4822 124 40433	47μF 20% 25V
2467Δ	4822 126 10002	100nF 20% 25V
2468Δ	4822 124 41579	10μF 20% 50V
2469	4822 126 13482	470nF 80/20% 16V
2470Δ	4822 122 33177	10nF 20% 50V
2471Δ	4822 126 10002	100nF 20% 25V
2472	4822 126 13473	220nF 50V
2473	4822 126 13473	220nF 50V
2474	4822 126 13473	220nF 50V
2475	4822 122 33891	3.3nF 10% 63V
2475	4822 126 13188	15nF 5% 63V
2476	4822 122 33891	3.3nF 10% 63V
2476	4822 126 13188	15nF 5% 63V
2477Δ	4822 124 40246	4.7μF 20% 63V
2478Δ	4822 124 40246	4.7μF 20% 63V
2479	4822 126 13473	220nF 50V
2480	4822 126 13482	470nF 16V
2481	4822 126 13473	220nF 50V
2482	4822 126 13473	220nF 50V
2483	4822 122 33891	3.3nF 10% 63V
2484	4822 122 33891	3.3nF 10% 63V
2485	4822 126 13473	220nF 50V
2486Δ	4822 124 40246	4.7μF 20% 63V
2487Δ	4822 124 41579	10μF 20% 50V
2488	4822 122 33532	3.3nF 5% 50V

2489	4822 122 33532	3.3nF 5% 50V
2490	4822 126 13482	470nF 16V
2491Δ	4822 126 10002	100nF 20% 25V
2492Δ	4822 124 40246	4.7μF 20% 63V
2493	4822 124 81029	100μF 20% 25V
2494Δ	4822 124 41579	10μF 20% 50V
2495Δ	4822 126 10002	100nF 20% 25V
2495	5322 122 32531	100pF 5% 50V
2496Δ	4822 124 41579	10μF 20% 50V
2497	5322 126 10511	1nF 5% 50V
2498	5322 126 10511	1nF 5% 50V
2499	5322 126 10511	1nF 5% 50V
2500	5322 126 10511	1nF 5% 50V
2501	4822 126 13473	220nF 50V
2502	4822 126 13473	220nF 50V
2503	4822 126 13473	220nF 50V
2504	4822 126 13473	220nF 50V
2505	5322 126 10511	1nF 5% 50V
2506Δ	4822 126 10002	100nF 20% 25V
2507	4822 126 13482	470nF 16V
2508	4822 126 13482	470nF 16V
2509Δ	4822 126 10002	100nF 20% 25V
2511Δ	4822 126 10002	100nF 20% 25V
2520Δ	4822 124 41579	10μF 20% 50V
2521	4822 126 13473	220nF 80-20% 50V
2522	4822 126 13473	220nF 80-20% 50V
2550Δ	4822 126 10002	100nF 20% 25V
2551Δ	4822 126 10002	100nF 20% 25V
2552Δ	4822 126 10002	100nF 20% 25V
2553Δ	4822 124 40433	47μF 20% 25V
2555Δ	5322 122 34123	1nF 10% 50V
2556Δ	5322 122 34123	1nF 10% 50V
2558	4822 126 13482	470nF 16V
2559	4822 126 13482	470nF 16V
2560	4822 126 13482	470nF 16V
2561	4822 126 13482	470nF 16V
2562	4822 126 13482	470nF 16V
2565Δ	5322 122 32654	22nF 10% 63V
2566Δ	5322 122 32654	22nF 10% 63V
2567Δ	4822 126 10002	100nF 20% 25V
2568Δ	4822 126 10002	100nF 20% 25V
2569	4822 126 13482	470nF 16V
2570	4822 126 13482	470nF 16V
2571Δ	4822 124 40433	47μF 20% 25V
2572Δ	4822 124 40433	47μF 20% 25V
2600	4822 124 11572	47μF 20% 160V
2601	4822 122 31177	470pF 10% 500V
2602Δ	5322 126 10223	4.7nF 10% 63V
2605	4822 122 31175	1nF 10% 500V
2611	4822 121 43526	47nF 5% 250V
2611	4822 121 51399	47nF 10% 50V
2612	4822 121 43526	47nF 5% 250V
2612	4822 121 51399	47nF 10% 50V
2618Δ	4822 126 12239	560pF 10% 2KV
2618Δ	4822 126 13451	2.2nF 10% 2KV
2621	4822 122 31177	470pF 10% 500V
2624	4822 124 41741	2.2μF 20% 350V
2624	4822 124 80069	1μF 20% 160V
2625Δ	4822 121 70434	11nF 5% 1.6KV
2625Δ	4822 121 70618	12nF 5% 1600V
2627	4822 124 40255	100μF 20% 63V

# 12 Spare parts list

3090A	4822 051 20101	100Ω 5% 0.1W	3560	4822 117 10965	18k 1% 0.1W	3877A	4822 051 20101	100Ω 5% 0.1W	6628A	4822 130 30621	1N4148
3091A	4822 051 20101	100Ω 5% 0.1W	3563A	4822 051 20472	4k7 5% 0.1W	3880	4822 116 52176	10Ω 5% 0.5W	6629	4822 130 34379	BZX79-B27
3092A	4822 051 20101	100Ω 5% 0.1W	3564	4822 051 20822	8k2 5% 0.1W	3881A	4822 051 20109	10Ω 5% 0.1W	6630A	4822 130 30621	1N4148
3093	4822 116 52175	100Ω 5% 0.5W	3565A	4822 051 20472	4k7 5% 0.1W	3882	4822 116 83872	220Ω 5% 0.5W	6631A	4822 130 31024	BZX79-B18
3094	4822 116 52175	100Ω 5% 0.5W	3566	4822 051 20822	8k2 5% 0.1W	3902	4822 117 12074	1Ω 5% 10%	6631	4822 130 34281	BZX79-B15
3099	4822 117 10833	10k 1% 0.1W	3567	4822 051 20154	150k 5% 0.1W	3905	4822 116 30451	NTC	6638A	4822 130 34197	BZX79-B12
3126	4822 051 20392	3k9 5% 0.1W	3568	4822 051 20154	150k 5% 0.1W	3906	4822 116 10075	9Ω 220V	6638A	4822 130 34499	BZX79-B20
3128A	4822 051 20153	15k 5% 0.1W	3569	4822 117 10833	10k 1% 0.1W	3910	4822 117 10833	10k 1% 0.1W	6639A	4822 130 30621	1N4148
3129A	4822 051 20008	0Ω jumper	3570	4822 117 11507	6k8 1% 0.1W	3911	4822 117 11449	2k2 1% 0.1W	6641	4822 130 42606	BYD33J
3130A	4822 051 20008	0Ω jumper	3571	4822 050 11002	1k 1% 0.4W	3911	4822 117 12955	2k7 1% 0.1W	6646A	4822 130 30621	1N4148
3131A	4822 051 20008	0Ω jumper	3572	4822 050 11002	1k 1% 0.4W	3917	4822 053 12104	100k 5% 3W	6660A	4822 130 41602	BYW95C
3141A	4822 051 20008	0Ω jumper	3575A	4822 051 20109	10Ω 5% 0.1W	3917	4822 117 13425	150k 10% 3W	6663A	4822 130 82029	LTL307P
3142A	4822 051 20008	0Ω jumper	3576A	4822 051 20109	10Ω 5% 0.1W	3920	4822 116 52269	3k3 5% 0.5W	6664A	4822 130 41602	BYW95C
3143A	4822 051 20008	0Ω jumper	3601	4822 053 11159	15Ω 5% 2W	3922	4822 116 52228	680Ω 5% 0.5W	6700	4822 130 42488	BYD33D
3145A	4822 051 20332	3k3 5% 0.1W	3601A	4822 053 11339	33Ω 5% 2W	3924A	4822 113 80525	OR15 10% 3W	6719A	4822 130 34173	BZX79-B5V6
3146A	4822 051 20472	4k7 5% 0.1W	3602	4822 116 52289	5k6 5% 0.5W	3924A	4822 113 80633	0Ω 1% 3W	6731A	4822 130 30621	1N4148
3149	4822 051 10102	1k 2% 0.25W	3608	4822 050 13303	33k 1% 0.4W	3926	4822 051 10102	1k 2% 0.25W	6734	4822 130 42488	BYD33D
3150	4822 117 11449	2k2 1% 0.1W	3608	4822 050 13903	39k 1% 0.4W	3931	4822 116 83861	390Ω 5% 0.5W	6735A	4822 130 30621	1N4148
3152	4822 116 52228	680Ω 5% 0.5W	3609	4822 050 13903	39k 1% 0.4W	3932	4822 117 11449	2k2 1% 0.1W	6739A	4822 130 30621	1N4148
3153	4822 051 20391	390Ω 5% 0.1W	3610	4822 050 12203	22k 1% 0.4W	3933	4822 051 20689	68Ω 5% 0.1W	6741	4822 130 31253	BZX79-C2V4
3160	4822 051 10102	1k 2% 0.25W	3612	4822 053 12123	12k 5% 3W	3941	4822 053 20335	3M3 5% 0.25W	6742A	4822 130 30621	1N4148
3161	4822 051 10102	1k 2% 0.25W	3612	4822 117 12106	6k8 5% 3W	3950A	4822 053 21225	2M2 5% 0.5W	6743A	4822 130 30621	1N4148
3162A	4822 052 10338	30Ω 5% 0.33W	3613A	4822 053 12153	15k 5% 3W	3955A	4822 051 20472	4k7 5% 0.1W	6744	4822 130 34278	BZX79-B6V8
3163	4822 051 20561	560Ω 5% 0.1W	3613	4822 117 12106	6k8 5% 3W	3959	4822 111 31051	3K3 5%	6861A	4822 130 83757	BAS216
3164A	4822 051 20121	120Ω 5% 0.1W	3616	4822 117 11507	6k8 1% 0.1W	3962	4822 116 52249	1k8 5% 0.5W	6862A	4822 130 83757	BAS216
3166A	4822 051 20472	4k7 5% 0.1W	3617	4822 116 52191	33Ω 5% 0.5W	3962	4822 116 52263	2k7 5% 0.5W	6867A	4822 130 30621	1N4148
3167A	4822 051 20472	4k7 5% 0.1W	3618	4822 051 10102	1k 2% 0.25W	3963A	4822 051 20472	4k7 5% 0.1W	6868A	4822 130 30621	1N4148
3168	4822 051 20561	560Ω 5% 0.1W	3628	4822 050 11002	1k 1% 0.4W	3964	4822 116 52257	22k 5% 0.5W	6903	4822 130 11185	GBU4J
3169	4822 051 20561	560Ω 5% 0.1W	3629	4822 116 52272	330k 5% 0.5W	3976	4822 051 20182	1k8 5% 0.1W	6904A	4822 130 30621	1N4148
3170	4822 117 11449	2k2 1% 0.1W	3630	4822 116 52228	680Ω 5% 0.5W	3980	4822 116 52238	12k 5% 0.5W	6906A	4822 130 32896	BYD33M
3171A	4822 051 20101	100Ω 5% 0.1W	3631A	4822 053 21334	330k 5% 0.5W	3991	4822 116 52243	1k5 5% 0.5W	6908	4822 130 42488	BYD33D
3175A	4822 051 20101	100Ω 5% 0.1W	3632	4822 116 52271	33k 5% 0.5W	3994	4822 053 10683	68k 5% 1W	6910	4822 130 42488	BYD33D
3176	4822 051 20561	560Ω 5% 0.1W	3632	4822 116 52303	8k2 5% 0.5W	3995	4822 053 12104	100k 5% 3W	6911	4822 130 42488	BYD33D
3197	4822 051 20104	100k 5% 0.1W	3638	4822 116 52175	100Ω 5% 0.5W	4xxx	4822 051 10008	0Ω 5% 0.25W	6913	4822 130 11365	BYR29F-600
3241	4822 051 10102	1k 2% 0.25W	3639A	4822 053 10103	10k 5% 1W	4xxx	4822 051 20008	0Ω 5% 0.25W	6914A	4822 130 80791	BYV28-200/20
3242	4822 117 11449	2k2 1% 0.1W	3643A	4822 052 11108	1Ω 5% 0.5W				6917A	4822 130 80791	BYV28-200/20
3243	4822 051 20474	470k 5% 0.1W	3645A	4822 052 11108	1Ω 5% 0.5W				6918	4822 130 10678	BY229X-200
3244	4822 051 10102	1k 2% 0.25W	3647	4822 116 52304	82k 5% 0.5W				6918	4822 130 80982	BYW29F-100
3245	4822 051 10102	1k 2% 0.25W	3650	4822 116 83864	10k 5% 0.5W				6930	4822 130 31083	BYW55
3247A	4822 051 20101	100Ω 5% 0.1W	3660A	4822 052 11108	1Ω 5% 0.5W	5080	4822 157 51216	5.6μH	6931	4822 130 31083	BYW55
3248	4822 117 10834	47k 1% 0.1W	3661A	4822 052 11108	1Ω 5% 0.5W	5081	4822 157 51216	5.6μH	6932	4822 130 31083	BYW55
3249	4822 117 10834	47k 1% 0.1W	3663A	4822 052 11108	1Ω 5% 0.5W	5090A	4822 157 52259	5.6μH	6933	4822 130 31083	BYW55
3250A	4822 052 10109	10Ω 5% 0.33W	3664A	4822 052 11108	1Ω 5% 0.5W	5100	4822 157 51216	5.6μH	6935A	4822 130 30621	1N4148
3251	4822 051 20104	100k 5% 0.1W	3666	4822 116 52175	100Ω 5% 0.5W	5145	4822 157 70439	Adj. coil	6950	4822 130 42488	BYD33D
3252	4822 051 20104	100k 5% 0.1W	3668	4822 116 52175	100Ω 5% 0.5W	5147	4822 157 11003	0.82μH	6952	5322 130 31504	BZX79-B3V3
3253A	4822 051 20471	470Ω 5% 0.1W	3708	4822 050 22202	2k2 1% 0.6W	5160	4822 157 11676	3.3μH 5%	6955	4822 130 34142	BZX79-B33
3255A	4822 051 20101	100Ω 5% 0.1W	3709	4822 051 10102	1k 2% 0.25W	5161	4822 157 11676	3.3μH 5%	6966	4822 130 42488	BYD33D
3257A	4822 051 20471	470Ω 5% 0.1W	3710	4822 051 10102	1k 2% 0.25W	5168	4822 157 11518	5.6μH 5%	6992	4822 130 30862	BZX79-B9V1
3260	4822 117 10833	10k 1% 0.1W	3715	4822 116 83864	10k 5% 0.5W	5168	4822 157 11524	8.2μH 5%			
3261	4822 117 10833	10k 1% 0.1W	3716	4822 116 83864	10k 5% 0.5W	5315	4822 157 52333	100μH			
3262	4822 117 11504	270Ω 1% 0.1W	3717	4822 117 10833	10k 1% 0.1W	5430	4822 157 53302	1μH			
3263	4822 117 11503	220Ω 1% 0.1W	3718	4822 116 52283	4k7 5% 0.5W	5431	4822 157 11516	15μH 5%			
3264	4822 051 10102	1k 2% 0.25W	3729	4822 116 83864	10k 5% 0.5W	5432	4822 157 11526	22μH 5%			
3264A	4822 051 20008	0Ω jumper	3730	4822 050 22202	2k2 1% 0.6W	5601	4822 157 10359	33μH			
3265A	4822 051 20471	470Ω 5% 0.1W	3731	4822 051 20104	100k 5% 0.1W	5601	4822 157 11213	22μH			
3266	4822 051 20474	470k 5% 0.1W	3731	4822 051 20274	270k 5% 0.1W	5610A	4822 142 40351	Line dr. tr. 29°			
3267	4822 117 11449	2k2 1% 0.1W	3732	4822 051 20104	100k 5% 0.1W	5610	4822 146 11045	Line dr. tr. 33°			
3268	4822 051 10102	1k 2% 0.25W	3733A	4822 052 10158	1Ω 5% 0.33W	5620	4822 157 60171	Bead 100mH			
3271	4822 117 11449	2k2 1% 0.1W	3734	4822 116 83864	10k 5% 0.5W	5621	4822 157 11671	Lin. coil 29°			
3274	4822 116 52175	100Ω 5% 0.5W	3735	4822 116 52175	100Ω 5% 0.5W	5621	4822 157 11712	Lin. coil 33°			
3292	4822 116 52175	100Ω 5% 0.5W	3736	4822 116 52175	100Ω 5% 0.5W	5622	4822 157 60171	Bead 100mH			
3293A	4822 051 20472	4k7 5% 0.1W	3737	4822 111 30819	2Ω 7	5630A	4822 140 10649	LOT (1372.001) 29°			
3303	4822 117 11449	2k2 1% 0.1W	3737	4822 111 31051	3Ω 3 5%	5630A	4822 146 11046	LOT (pow. slot) 34°			
3304	4822 117 11449	2k2 1% 0.1W	3738	4822 111 30819	2Ω 7	5643	4822 157 50964	100μH			
3305	4822 117 11449	2k2 1% 0.1W	3738	4822 117 11778	4Ω 7 5%	5643	4822 157 52392	27μH			
3306	4822 116 52195	47Ω 5% 0.5W	3739	4822 111 31051	3Ω 3 5%	5660	4822 157 11672	12μH 5%			
3307	4822 116 52195	47Ω 5% 0.5W	3739	4822 116 81755	2Ω 2 0.25W	5662	4822 157 11672	12μH 5%			
3308	4822 116 52195	47Ω 5% 0.5W	3740	4822 117 10833	10k 1% 0.1W	5733	4822 157 63506	Bead EMI 200mH			
3309	4822 051 20479	47Ω 5% 0.1W	3741	4822 116 83864	10k 5% 0.5W	5860	4822 157 63507</				

7908Δ	4822 209 80591	LM317T
7909	4822 130 60511	BC847B
7950Δ	4822 209 16708	TCDT1103G

## CRT panel [B]

## Various

0218	4822 255 10411	10P Female
1019	4822 212 11856	CRT panel 29"
1019	4822 212 11754	CRT panel 34"

## -II-

2830	4822 121 51473	470nF 20% 63V
2838Δ	4822 126 13451	2.2nF 10% 2KV
2840	4822 124 11565	10μF 20% 250V
2843Δ	4822 126 13451	2.2nF 10% 2KV

## □

3831	4822 116 52175	100Ω 5% 0.5W
3832	4822 117 11635	1k 10% 0.5W
3833	4822 116 52175	100Ω 5% 0.5W
3834	4822 117 11635	1k 10% 0.5W
3835	4822 116 52175	100Ω 5% 0.5W
3836	4822 117 11635	1k 10% 0.5W
3840Δ	4822 052 10101	100Ω 5% 0.33W
3841Δ	4822 052 10108	1Ω 5% 0.33W
3842Δ	4822 052 10108	1Ω 5% 0.33W
3843	4822 117 11896	1k5 20% 0.5W
3845	4822 116 52272	330k 5% 0.5W

## ~

5842	4822 157 11447	56μH
5842	4822 157 71703	82μH

## ▶▶

6831	4822 130 30842	BAV21
6833	4822 130 30842	BAV21
6835	4822 130 30842	BAV21
6837	4822 130 34379	BZX79-B27
6838	4822 130 34379	BZX79-B27

## □

7830	4822 209 16321	TDA6107Q/N1
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## EW panel [C]

## Various

0239	4822 267 10899	17P Male
1150	4822 212 11757	EW panel (29")
1150	4822 212 11772	EW panel (34")

## -II-

2623Δ	4822 121 10781	470nF 5% 250V
2634Δ	4822 121 40488	22nF 10% 400V
2634Δ	4822 121 70365	39nF 10% 400V
2681	4822 122 31177	470pF 10% 500V
2682	4822 121 42035	4.7μF 10% 100V
2683	4822 124 12246	10μF 20% 160V
2688	4822 124 12247	47μF 20% 100V

## □

3651	4822 116 52243	1k5 5% 0.5W
3651	4822 116 83883	470Ω 5% 0.5W
3656	4822 116 52238	12k 5% 0.5W
3657	4822 116 83864	10k 5% 0.5W
3658	4822 116 52234	100k 5% 0.5W
3659	4822 116 83864	10k 5% 0.5W
3679Δ	4822 053 11682	6k8 5% 2W
3680	4822 050 11204	120k 1% 0.4W
3680	4822 116 52304	82k 5% 0.5W
3681	4822 050 11002	1k 1% 0.4W
3682	4822 116 52234	100k 5% 0.5W
3682	4822 116 52304	82k 5% 0.5W
3683Δ	4822 050 24708	407 1% 0.6W
3684Δ	4822 050 24708	407 1% 0.6W
3687	4822 116 52283	4k7 5% 0.5W
3688	4822 116 52234	100k 5% 0.5W
3688	4822 116 52297	68k 5% 0.5W

## ~

5624	4822 157 71681	Bridge coil
5680	4822 157 11711	Choke coil
5680Δ	4822 158 10728	Transf. 11μH

## ▶▶

6622Δ	4822 130 41602	BYW95C
6623Δ	4822 130 41602	BYW95C
6627Δ	4822 130 61219	BZX79-B10
6681Δ	4822 130 30621	1N4148

## □

7658	4822 130 40959	BC547B
7659	4822 130 40959	BC547B
7680	4822 130 11336	STP16NE06FP

## IO cinch [E]

## Various

0130Δ	4822 466 12028	Rear brkt PIP
0130Δ	4822 466 12029	Rear brkt non-PIP
0265	4822 265 11388	6P Female
0266	4822 265 11389	3P Female
0267	4822 265 11391	4P Female
0295	4822 265 11392	3P Male
0296	4822 267 10895	5P Male
0297	4822 267 10898	6P Male
0298	4822 265 11393	3P Male
1130	4822 212 11753	IO cinch PIP
1130	4822 212 11756	IO cinch no-PIP

## -II-

2100	4822 124 22726	4.7μF 35V
2101	4822 126 13473	220nF 50V
2112	4822 126 13473	220nF 50V
2116	4822 126 13473	220nF 50V
2118	4822 126 13473	220nF 50V
2121	4822 126 13473	220nF 50V
2131	5322 122 31863	330pF 5% 50V
2133	5322 122 31863	330pF 5% 50V
2141	4822 126 13473	220nF 50V
2146	5322 122 31863	330pF 5% 50V
2148	5322 122 31863	330pF 5% 50V
2151	5322 122 31863	330pF 5% 50V
2155	5322 122 31863	330pF 5% 50V
2156Δ	4822 126 10002	100nF 20% 25V
2157Δ	4822 126 10002	100nF 20% 25V
2158Δ	4822 126 10002	100nF 20% 25V
2159Δ	4822 126 10002	100nF 20% 25V

## □

3101	4822 051 10102	1k 2% 0.25W
3102	4822 051 10102	1k 2% 0.25W
3110	4822 116 52201	75Ω 5% 0.5W
3111	4822 116 52201	75Ω 5% 0.5W
3112Δ	4822 051 20101	100Ω 5% 0.1W
3113	4822 051 10102	1k 2% 0.25W
3114	4822 051 10102	1k 2% 0.25W
3115	4822 051 10102	1k 2% 0.25W
3116	4822 051 20474	470k 5% 0.1W
3117	4822 051 10102	1k 2% 0.25W
3118Δ	4822 051 20101	100Ω 5% 0.1W
3130	4822 051 10102	1k 2% 0.25W
3131	4822 051 20223	22k 5% 0.1W
3132	4822 051 10102	1k 2% 0.25W
3133	4822 051 20223	22k 5% 0.1W
3140	4822 116 52201	75Ω 5% 0.5W
3141Δ	4822 051 20101	100Ω 5% 0.1W
3145	4822 051 10102	1k 2% 0.25W
3146	4822 051 20223	22k 5% 0.1W
3147	4822 051 10102	1k 2% 0.25W
3148	4822 051 20223	22k 5% 0.1W
3150	4822 116 52199	68Ω 5% 0.5W
3151	4822 117 10353	150Ω 1% 0.1W
3152	4822 051 20104	100k 5% 0.1W
3153	4822 117 10353	150Ω 1% 0.1W
3154	4822 117 10353	150Ω 1% 0.1W
3155	4822 051 20104	100k 5% 0.1W
3156	4822 117 10353	150Ω 1% 0.1W
3157	4822 117 10834	47k 1% 0.1W
3158	4822 117 10834	47k 1% 0.1W
3159	4822 117 10834	47k 1% 0.1W
3160	4822 117 10834	47k 1% 0.1W

## ▶▶

6110	4822 130 34278	BZX79-B6V8
6111	4822 130 34278	BZX79-B6V8
6130	4822 130 34278	BZX79-B6V8
6131	4822 130 34278	BZX79-B6V8
6132	4822 130 34278	BZX79-B6V8
6133	4822 130 34278	BZX79-B6V8

6140	4822 130 34278	BZX79-B6V8
6145	4822 130 34278	BZX79-B6V8
6146	4822 130 34278	BZX79-B6V8
6147	4822 130 34278	BZX79-B6V8
6148	4822 130 34278	BZX79-B6V8
6150	4822 130 34278	BZX79-B6V8
6151	4822 130 34278	BZX79-B6V8
6152	4822 130 34278	BZX79-B6V8
6154	4822 130 34278	BZX79-B6V8
6155	4822 130 34278	BZX79-B6V8
6166Δ	4822 130 30621	1N4148
6167Δ	4822 130 30621	1N4148

## □

7100	5322 209 10576	HEF4053BD
7101	4822 130 60511	BC847B
7102	4822 130 60511	BC847B
7115	4822 130 60511	BC847B
7117	4822 130 60511	BC847B

## Comb filt. [G]

## Various

0243Δ	4822 267 10888	5P Male
0254	4822 267 10927	11P Male F-pin
1130	4822 212 11763	Comb fit. NTSC
1130	4822 212 11773	Comb fit. Pal/Multi

## -II-

2000	4822 124 41584	100μF 20% 10V
2001Δ	4822 126 10002	100nF 20% 25V
2002Δ	4822 126 10002	100nF 20% 25V
2003Δ	4822 126 10002	100nF 20% 25V
2004Δ	4822 126 10002	100nF 20% 25V
2010	4822 126 13482	470nF 16V
2011Δ	4822 126 10002	100nF 20% 25V
2012Δ	4822 126 10002	100nF 20% 25V
2012	4822 126 13482	470nF 16V
2013	5322 122 32531	100pF 5% 50V
2020	4822 126 13692	47pF 1% 63V
2021Δ	4822 126 10002	100nF 20% 25V
2022Δ	4822 126 10002	100nF 20% 25V
2023Δ	4822 126 10002	100nF 20% 25V
2024Δ	4822 126 10002	100nF 20% 25V
2025Δ	4822 126 10002	100nF 20% 25V
2026	4822 124 41584	100μF 20% 10V
2027Δ	4822 126 10002	100nF 20% 25V
2028	4822 124 41584	100μF 20% 10V
2029	5322 122 32268	470pF 10% 50V

## □

3012	4822 117 11503	220Ω 1% 0.1W
3013	4822 117 11503	220Ω 1% 0.1W
3020Δ	4822 051 20472	4k7 5% 0.1W
3022	4822 117 10833	10k 1% 0.1W
3024	4822 117 10834	47k 1% 0.1W
3025	4822 117 10834	47k 1% 0.1W
4xxx	4822 051 10008	0Ω 5% 0.25W
4xxx	4822 051 20008	0Ω 5% 0.25W

## ~

5000Δ	4822 157 51462	10μH
5012	4822 157 11515	12μH 5%
5012	4822 157 11516	15μH 5%

## □

7000	4822 209 12998	SAA4961/V3/S1
7010	4822 209 16815	SAA4963/V1
7011	4822 130 60511	BC847B

## Mains [H]

## Various

0234Δ	4822 256 92053	Fuse holder
0262Δ	4822 267 10775	2P Male (black)
0263Δ	4822 265 20723	2P conn. BM vert.
0301Δ	4822 402 11113	Mains fit. brkt
1140	4822 212 11755	Mains CISPR pnl
1140	4822 212 11764	Mains CISPR(SR) pnl
1140	4822 212 11774	Mains non-CISPR pnl
1900	4822 070 34002	Fuse 4A

## -II-

2900Δ	4822 121 10787	150nF 20% 275V
2901Δ	4822 126 14084	4.7nF 20% 250V
2903	4822 121 70141	33nF 5% 400V

## □

3900Δ	4822 053 21475	4M7 5% 0.5W
3901Δ	4822 053 21225	2M2 5% 0.5W
3904	4822 117 12181	470Ω 20% 0.5W
3996Δ	4822 053 21475	4M7 5% 0.5W

## ~

5900Δ	4822 157 11523	5mH /2A
5901Δ	4822 157 11004	Line fit. 15mH
5902Δ	4822 157 10999	Line fit. 30mH
5903Δ	4822 157 11523	5mH /2A

## ▶▶

6919Δ	4822 130 34499	BZX79-B20
6920Δ	4822 130 34499	BZX79-B20

## QSS DK [J]

## Various

0287	4822 267 10908	3P Male F-pin
0288	4822 267 10909	5P Male F-pin
1080	4	

6235 4822 130 34278 BZX79-B6V8

## Top ctrl [N]

### Various

81	4822 441 12227	Brkt. & cover
1001	4822 276 13775	Switch
1002	4822 276 13775	Switch
1003	4822 276 13775	Switch
1004	4822 276 13775	Switch
1110	4822 212 11759	Top ctrl pnl



3043	4822 116 52256	2k2 5% 0.5W
3044	4822 116 52256	2k2 5% 0.5W
3045	4822 116 52269	3k3 5% 0.5W
3046	4822 116 52256	2k2 5% 0.5W
3048	4822 116 52238	12k 5% 0.5W
3049	4822 116 52271	33k 5% 0.5W



6040Δ 4822 130 30621 1N4148

## YUV panel [R]

### Various

0241Δ	4822 267 10888	5P Male
0242Δ	4822 267 10889	6P Male
0256	4822 267 10927	11P Male F-pin
1100	4822 212 11762	YUV PIP pnl
1100	4822 212 11766	YUV non-PIP pnl



2225Δ	4822 124 41579	10μF 20% 50V
2226Δ	4822 126 10002	100nF 20% 25V
2227Δ	4822 126 10002	100nF 20% 25V



3225Δ	4822 051 20101	100Ω 5% 0.1W
3332Δ	4822 051 20101	100Ω 5% 0.1W
3333Δ	4822 051 20101	100Ω 5% 0.1W
3336Δ	4822 052 10478	4k7 5% 0.33W
3337Δ	4822 051 20008	0Ω jumper



7770 4822 209 16814 TDA9178/N1

## OSD panel [S]

### Various

0201	4822 267 10932	5P Female
0204	4822 267 10932	5P Female
0207Δ	4822 267 10889	6P Male
0231Δ	4822 267 10888	5P Male
1101	4822 242 10947	crystal 4MHz
1160	4822 212 11767	OSD p. EN/MAL/CHIN
1160	4822 212 11768	OSD p. EN/ARAB
1160	4822 212 11769	OSD p. EN/HANGUL
1160	4822 212 11771	OSD p. EN/TW



2100Δ	4822 124 40433	47μF 20% 25V
2101	4822 124 42362	33μF 20% 16V
2103Δ	4822 126 10002	100nF 20% 25V
2104Δ	4822 124 40433	47μF 20% 25V
2106	4822 126 13691	27pF 1% 63V
2107	4822 126 13691	27pF 1% 63V
2108Δ	4822 126 10002	100nF 20% 25V
2113	4822 122 33891	3.3nF 10% 63V
2114	4822 124 40242	1μF 20% 63V
2115	5322 122 33861	120pF 10% 50V



3100	4822 051 10102	1k 2% 0.25W
3101	4822 116 52175	100Ω 5% 0.5W
3102	4822 116 52175	100Ω 5% 0.5W
3103	4822 051 20562	5k6 5% 0.1W
3117	4822 051 10102	1k 2% 0.25W

3118	4822 051 10102	1k 2% 0.25W
3119	4822 051 10102	1k 2% 0.25W
3120	4822 051 10102	1k 2% 0.25W
3125	4822 116 52175	100Ω 5% 0.5W
3126	4822 116 52175	100Ω 5% 0.5W
3127	4822 051 20105	1M 5% 0.1W
4xxx	4822 051 10008	0Ω 5% 0.25W
4xxx	4822 051 20008	0Ω 5% 0.25W

5100	4822 157 51216	5.6μH
5101	4822 157 51216	5.6μH



6100Δ	4822 130 83757	BAS216
6103Δ	4822 130 83757	BAS216
6104Δ	4822 130 83757	BAS216
6105Δ	4822 130 83757	BAS216
6106Δ	4822 130 83757	BAS216



7101	4822 209 16911	PCA8516P/028
7101	4822 209 16922	PCA8516P/030
7101	4822 209 16923	PCA8516P/032
7101	4822 209 16924	PCA8516P/029

## (YC) PIP [T]

### Various

0209Δ	4822 267 10888	5P Male
0216Δ	4822 267 10888	5P Male
0217Δ	4822 267 10892	4P Male
0302	4822 402 11155	PIP brkt.
1120	4822 212 11758	YC PIP (NTSC) pnl
1125Δ	4822 218 11936	Splitter NTSC
1126Δ	4822 210 10828	Tuner UV PH TELH9
1140	4822 242 10945	SAW fit.
		OFWM3953M
		cr. 14.31818MHz )
1351	4822 242 71861	



2125	4822 124 81029	100μF 20% 25V
2126	4822 124 81029	100μF 20% 25V
2127Δ	4822 126 12944	47nF 10% 50V
2144Δ	4822 126 10002	100nF 20% 25V
2148Δ	4822 124 40246	4.7μF 20% 63V
		DXH=5X11
2149Δ	4822 124 41579	10μF 20% 50V
2150Δ	4822 126 10002	100nF 20% 25V
2156Δ	4822 126 10002	100nF 20% 25V
2351	4822 122 32139	12pF 2% 63V
2352	4822 126 13473	220nF 50V
2353	5322 126 10511	1nF 5% 50V
2354	5322 122 32531	100pF 5% 50V
2355Δ	4822 124 41579	10μF 20% 50V
2356Δ	4822 126 10002	100nF 20% 25V
2357	4822 124 40242	1μF 20% 63V
2358Δ	4822 126 10002	100nF 20% 25V
2359Δ	4822 122 33177	10nF 20% 50V
2360	4822 124 40242	1μF 20% 63V
2361	4822 126 13805	68nF 10 16V
2362	4822 122 32139	12pF 2% 63V
2363Δ	4822 126 10002	100nF 20% 25V
2364Δ	4822 122 33177	10nF 20% 50V
2365Δ	4822 126 10002	100nF 20% 25V
2366	5322 121 42386	100nF 5% 63V
2367	4822 126 13473	220nF 50V
2368Δ	4822 122 32627	2.7nF 10% 50V
2369Δ	4822 122 33177	10nF 20% 50V
2370Δ	4822 122 33177	10nF 20% 50V
2371Δ	4822 122 33177	10nF 20% 50V
2372Δ	4822 124 41579	10μF 20% 50V
2373Δ	4822 126 10002	100nF 20% 25V
2374Δ	4822 122 33177	10nF 20% 50V
2375Δ	4822 126 10002	100nF 20% 25V
2376Δ	4822 124 41579	10μF 20% 50V
2377Δ	4822 126 10002	100nF 20% 25V
2378	5322 126 10511	1nF 5% 50V
2379Δ	4822 126 10002	100nF 20% 25V
2380Δ	4822 122 33177	10nF 20% 50V
2381Δ	4822 122 33177	10nF 20% 50V
2382Δ	4822 122 33177	10nF 20% 50V
2383Δ	4822 126 10002	100nF 20% 25V
2384Δ	4822 124 41579	10μF 20% 50V



2125	4822 124 81029	100μF 20% 25V
2126	4822 124 81029	100μF 20% 25V
2127Δ	4822 126 12944	47nF 10% 50V
2144Δ	4822 126 10002	100nF 20% 25V
2148Δ	4822 124 40246	4.7μF 20% 63V
		DXH=5X11
2149Δ	4822 124 41579	10μF 20% 50V
2150Δ	4822 126 10002	100nF 20% 25V
2156Δ	4822 126 10002	100nF 20% 25V
2351	4822 122 32139	12pF 2% 63V
2352	4822 126 13473	220nF 50V
2353	5322 126 10511	1nF 5% 50V
2354	5322 122 32531	100pF 5% 50V
2355Δ	4822 124 41579	10μF 20% 50V
2356Δ	4822 126 10002	100nF 20% 25V
2357	4822 124 40242	1μF 20% 63V
2358Δ	4822 126 10002	100nF 20% 25V
2359Δ	4822 122 33177	10nF 20% 50V
2360	4822 124 40242	1μF 20% 63V
2361	4822 126 13805	68nF 10 16V
2362	4822 122 32139	12pF 2% 63V
2363Δ	4822 126 10002	100nF 20% 25V
2364Δ	4822 122 33177	10nF 20% 50V
2365Δ	4822 126 10002	100nF 20% 25V
2366	5322 121 42386	100nF 5% 63V
2367	4822 126 13473	220nF 50V
2368Δ	4822 122 32627	2.7nF 10% 50V
2369Δ	4822 122 33177	10nF 20% 50V
2370Δ	4822 122 33177	10nF 20% 50V
2371Δ	4822 122 33177	10nF 20% 50V
2372Δ	4822 124 41579	10μF 20% 50V
2373Δ	4822 126 10002	100nF 20% 25V
2374Δ	4822 122 33177	10nF 20% 50V
2375Δ	4822 126 10002	100nF 20% 25V
2376Δ	4822 124 41579	10μF 20% 50V
2377Δ	4822 126 10002	100nF 20% 25V
2378	5322 126 10511	1nF 5% 50V
2379Δ	4822 126 10002	100nF 20% 25V
2380Δ	4822 122 33177	10nF 20% 50V
2381Δ	4822 122 33177	10nF 20% 50V
2382Δ	4822 122 33177	10nF 20% 50V
2383Δ	4822 126 10002	100nF 20% 25V
2384Δ	4822 124 41579	10μF 20% 50V



3126	4822 117 10833	10k 1% 0.1W
3127	4822 117 10833	10k 1% 0.1W
3128	4822 051 20333	33k 5% 0.1W
3129Δ	4822 051 20101	100Ω 5% 0.1W

3130Δ	4822 051 20101	100Ω 5% 0.1W
3131Δ	4822 051 20472	4k7 5% 0.1W
3140	4822 101 11193	47k 30% 0.1W
3141	4822 101 11191	10k 30% 0.1W
3144	4822 051 20331	330Ω 5% 0.1W
3145	4822 116 52257	22k 5% 0.5W
3146	4822 051 20223	22k 5% 0.1W
3160Δ	4822 051 20008	0Ω jumper
3163	4822 051 20331	330Ω 5% 0.1W
3167Δ	4822 051 20008	0Ω jumper
3168Δ	4822 051 20471	470Ω 5% 0.1W
3169	4822 116 83883	470Ω 5% 0.5W
3350Δ	4822 051 20472	4k7 5% 0.1W
3351Δ	4822 051 20472	4k7 5% 0.1W
3352	4822 116 52175	100Ω 5% 0.5W
3353	4822 116 52175	100Ω 5% 0.5W
3354	4822 051 20474	470k 5% 0.1W
3355Δ	4822 051 20101	100Ω 5% 0.1W
3356	4822 051 20759	75Ω 5% 0.1W
3357	4822 051 20759	75Ω 5% 0.1W
3358	4822 051 20759	75Ω 5% 0.1W
3359	4822 051 20759	75Ω 5% 0.1W
3360	4822 051 20104	100k 5% 0.1W
3361	4822 051 20683	68k 5% 0.1W
3362	4822 117 11383	12k 1% 0.1W
4xxx	4822 051 10008	0Ω 5% 0.25W
4xxx	4822 051 20008	0Ω 5% 0.25W

5100	4822 157 53302	1μH
5125	4822 157 53139	4.7μH
5147	4822 157 11713	91.5mH z
5150	4822 157 53139	4.7μH
5350	4822 157 53139	4.7μH
5351	4822 157 53139	4.7μH
5352	4822 157 53139	4.7μH
5353	4822 157 53139	4.7μH



7140	4822 209 31532	TDA9800/V3
7350	4822 209 16817	MC44462B

## Eco Dbl. Wndw

### Various

0209Δ	4822 267 10888	5P Male
0215Δ	4822 267 10889	6P Male
0216Δ	4822 267 10888	5P Male
0217Δ	4822 267 10892	4P Male
0330	4822 267 10934	Connector
0331	4822 267 10935	Connector
1120	4822 212 11789	Eco DW pnl
1120	4822 212 11791	Eco DW pnl (/93)
1300Δ	4822 210 10827	Tuner UV PH TELE9
1300Δ	4822 210 10829	Tuner UV CHI PH
1301	4822 218 11937	Splitter Pal

3364Δ	4822 051 20472	4k7 5% 0.1W
3367	4822 117 10833	10k 1% 0.1W
3368Δ	4822 051 20332	3k3 5% 0.1W
3373	4822 117 11139	1k5 1% 0.1W
3374	4822 051 10102	1k 2% 0.25W
3375	4822 117 11503	220Ω 1% 0.1W
3376	4822 117 11449	2k2 1% 0.1W
3385	4822 051 20475	4M7 5% 0.1W
3390	4822 100 11676	10k 30% 0.2W
3392	4822 051 10102	1k 2% 0.25W
3393	4822 117 11449	2k2 1% 0.1W
3394	4822 051 20822	8k2 5% 0.1W
3396	4822 051 20822	8k2 5% 0.1W
3397	4822 051 20822	8k2 5% 0.1W
3400	4822 051 20104	100k 5% 0.1W
3427	4822 117 11139	1k5 1% 0.1W
3428Δ	4822 051 20101	100Ω 5% 0.1W
3429Δ	4822 051 20101	100Ω 5% 0.1W
3430	4822 117 12955	2k7 1% 0.1W 0805
3431	4822 051 20562	5k6 5% 0.1W 0805
3432	4822 117 10833	10k 1% 0.1W
3433	4822 051 20122	1k2 5% 0.1W
3434	4822 051 20122	1k2 5% 0.1W
3435	4822 051 20392	3k9 5% 0.1W
3437Δ	4822 052 10108	1Ω 5% 0.33W
3438	4822 051 10102	1k 2% 0.25W
3443Δ	4822 051 20471	470Ω 5% 0.1W
3444	4822 117 11139	1k5 1% 0.1W
3445	4822 117 11139	1k5 1% 0.1W
3446	4822 117 11503	220Ω 1% 0.1W
3447	4822 051 10102	1k 2% 0.25W
3451	4822 051 20182	1k8 5% 0.1W
3452Δ	4822 051 20332	3k3 5% 0.1W
3455	4822 051 20182	1k8 5% 0.1W
3456Δ	4822 051 20332	3k3 5% 0.1W
3461Δ	4822 051 20101	100Ω 5% 0.1W
3463Δ	4822 051 20101	100Ω 5% 0.1W
3487Δ	4822 051 20472	4k7 5% 0.1W
4xxx	4822 051 10008	0Ω 5% 0.25W (1206)
4xxx	4822 051 20008	0Ω 5% 0.25W (0805)

5300	4822 157 11506	100mH
5301	4822 157 11506	100mH
5302	4822 157 11506	100mH
5303	4822 157 11506	100mH
5304	4822 157 11506	100mH
5305	4822 157 11506	100mH
5306	4822 157 11506	100mH
5307	4822 157 11506	100mH
5308	4822 157 11506	100mH
5309	4822 157 11506	100mH
5310	4822 157 11506	100mH
5311	4822 157 11506	100mH
5312	4822 157 11506	100mH
5313	4822 157 70439	Adj. coil
5315	4822 157 53302	1μH
5316	4822 157 11506	100mH
5317	4822 157 11506	100mH
5318	4822 157 11506	100mH
5319Δ	4822 051 20008	jumper



6300	4822 130 11366	BZX284-C3V9
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7300	4822 130 10414	BA792
7301	4822 130 10414	BA792
7302	4822 209 16821	SAB9061H/N1
7303	4822 209 16824	BA033FP
7304	4822 209 90031	TDA8310/N1
7305	4822 209 90036	TDA8395T/N2
7306	4822 209 61751	TC7S32F
7307	4822 209 31754	TC7S86F
7308	5322 209 33172	PCF8574AT
7309	4822 130 60511	BC847B
7310	5322 130 60508	BC857B
7311	4822 130 60511	BC847B
7312	4822 130 60511	BC847B
7313	5322 130 60508	BC857B
7318	4822 209 16822	SAB9062H/N1